Los Angeles Community College District
COURSE OUTLINE

☒ New Course: Academic Year, 2004-2005
☐ Addition of Existing District Course
☐ Course Change
☐ Outline Update

SECTION I: BASIC COURSE INFORMATION

1. COLLEGE: Los Angeles Southwest College

2. SUBJECT (DISCIPLINE) NAME[1] (40 characters, no abbreviations): **Electronics**

3. COURSE NUMBER: 15

4. COURSE TITLE: Survey of Computer Electronics

5. UNITS: 3

6. CATALOG COURSE DESCRIPTION -- Provide a description of the course, including an overview of the topics covered:

This course is an entry-level course in Computer Electronics Technology designed to enable Science and Engineering students to develop a working understanding of electronics and its application to their chosen fields of study witin the area of Electronics. It will provide basic knowledge and skills for transition into computer technology, manufacturing and robotics, electronic communications and electromechanical technology.

7. CLASS SCHEDULE COURSE DESCRIPTION -- Provide a brief description of the course, including an overview of the topics covered:

Same as above.

8. COLLEGE COURSE APPROVAL DATE: October 19, 2004
COLLEGE OUTLINE APPROVAL DATE: October 19, 2004

9. UPDATES (check all applicable boxes): **N/A – New Course**

☐ **Content**	**Last Update:**
☐ **Objectives**	**Last Update:**
☐ **College Specific Course Attributes/Data Elements**	**Last Update:**
☐ **Districtwide Course Attributes/Data Elements**	**Last Update:**
☐ **Other** (describe)	**Last Update:**

[1] Underlined course attributes are the same for the course throughout the LACCD; all other course attributes are college specific.

10. CLASS HOURS:

	Hours per week (based on 18 weeks)	Total Hours per term (hrs per week x 18)	Units
Lecture:	2	36	2
Lab/activity (w/ homework):			
Lab/activity (w/o homework):	3	54	1
Total:	5	90	3

Note: The Carnegie Rule and Title 5, section 55002 sets forth the following minimum standards: 1 unit = 1 hour lecture per week, 2 hours homework per week; **OR** 2 hours per week of lab with homework; **OR** 3 hours of lab per week without homework. The hours per week are based on a standard 18-week calendar. Lecture also includes discussion and/or demonstration hours, laboratory includes activity and/or studio hours.

11. PREREQUISITES, COREQUISITES, ADVISORIES ON RECOMMENDED PREPARATION, and LIMITATION ON ENROLLMENT (Add a list of entry skills for this course if it has a prerequisite, corequisite or advisory.)

Note: The LACCD's *Policy on Prerequisites, Corequisites and Advisories* requires that the curriculum committee take a separate action verifying that a course's prerequisite, corequisite or advisory is an "appropriate and rational measure of a student's readiness to enter the course or program" and that the prerequisite, corequisite or advisory meets the level of scrutiny delineated in the policy.

ENTRY SKILLS FOR COURSES WITH PREREQUISITES:
None

Prerequisites: None (If yes, complete information below)

Subject	Number	Course Title	Units	Validation Approval Date (for official use only)

Corequisite: None (If yes, complete information below)

Subject	Number	Course Title	Units	Validation Approval Date (for official use only)

Advisories: None (If yes, complete information below)

Subject	Number	Course Title	Units	Validation Approval Date (for official use only)

12. OTHER LIMITATIONS ON ENROLLMENT (see Title 5, section 58106 and Board Rule 6803 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

Because of lab stations, enrollment is currently limited to thirty (30).

SECTION II: COURSE CONTENT AND OBJECTIVES

1. COURSE CONTENT AND OBJECTIVES:

COURSE CONTENT AND SCOPE –**Lecture:** If applicable**,** outline the topics included in the lecture portion of the course *(Outline reflects course description, all topics covered in class).*	Hours per topic	COURSE OBJECTIVES - **Lecture** (*If applicable)*: upon successful completion of this course, the student will be able to… *(Use action verbs – see Bloom's Taxonomy below for "action verbs requiring cognitive outcomes.")*
1. Direct current circuit concepts (related to Objective 1) 2. Electric/magnetic fields, capacitance inductance (related to Objective 1) 3. Alternating currents and circuits (related to Objective 2) 4. Electronic devices and analog circuits (related to Objective 3) 5. Digital computer circuits (related to Objective 4) 6. Relays and switches (related to Objective 6) 7. Automatic control systems (related to Objective 7) 8. Robotics and Applications in manufacturing (related to Objective 8) 9. Programmable logic controllers (PLCs)(related to Objective 9	4 4 4 4 4 4 4 4 4	1. Define dc parameters of electronics, relate to electric and magnetic energy storage. 2. Calculate parameters of periodic and sinusoidal waves. 3. Apply AC and DC concepts to transistors and chips used in communication. 4. Name the basic subsystems of a Digital Computer. 5. Diagram the use of relays and switches in electromechanical technology. 6. Differentiate between amplifiers and oscillators in universal application of Op Amps. 7. Identify the three major types of control systems. 8. Write programs to operate a simple robot in manufacturing. 9. Compare digital logic control with discrete control provided by the relays and switches. SLO: Students will acquire the foundation to choose the next level of technology as applied to current job opportunities and their interests.
Total **lecture** hours*	36	

COURSE CONTENT AND SCOPE -- **Laboratory:** If applicable, outline the topics included in the laboratory portion of the course *(Outline reflects course description, all topics covered in class).*	Hours per topic	COURSE OBJECTIVES - **Laboratory** (*If applicable)*: Upon successful completion of this course, the student will be able to… *(Use action verbs – see Bloom's Taxonomy below for "action verbs requiring cognitive outcomes.")*[2]
1. Current, voltage and resistance measure 2. Verification of Ohm's Law 3. Capacitance and inductance measurements 4. AC voltage, frequency and period for sine wave, square wave and triangular wave. 5. Diodes, transistors and amplifiers 6. Basic computer circuits 7. Op amps and parameters 8. Open loop and closed loop systems 9. PLCs and simple robotics programming	6 3 3 9 9 6 6 6 6	1. Distinguish the differences in current and voltage by changing the resistance and then relating the dependence between current and voltage to Ohm's Law. 2. Measure the electric energy storage in the capacitive electronic circuits. 3. Measure frequency and its relationship to the period. 4. Measure amplifier's Gain and bandwidth. 5. Recognize and operate the major subsystems of the computer. 6. Compare and contrast the Gain and bandwidth

[2] In general "activity" courses or portions of courses are classified a "laboratory."

		of transistor amplifiers with operation amplifiers (discrete vs. integrated Op Amps). 7. Experiment with feed back loops in control systems. 8. Practice the current technology controls such as open loop, closed loop and adaptive control technology concepts.
Total **lab** hours*	54	

*Total lecture and laboratory hours (which include the final examination) must equal totals on page 1.

Bloom's Taxonomy

SIMPLE SKILLS <<----------->> COMPLEX SKILLS					
			Critical Thinking		
Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
define repeat record list recall name relate underline	translate restate discuss describe recognize explain express identify locate report review tell	interpret apply employ use demonstrate dramatize practice illustrate operate schedule shop sketch	distinguish analyze differentiate appraise calculate experiment test compare contrast criticize diagram inspect debate inventory question relate solve examine categorize	compose plan propose design formulate arrange assemble collect construct create set up organize prepare	judge appraise evaluate rate compare value revise score select choose assess estimate measure

2. REQUIRED TEXTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Oppenheimer, Survey of Electronics Technology, 2003.

3. SUPPLEMENTARY READINGS:

Reading assignments may include, but are not limited to the following:

General technology update articles in IEEE technical journals

4. WRITING ASSIGNMENTS:

Title 5, section 55002 requires grades to be "based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students." Writing assignments in this course may include, but are not limited to the following:

On a weekly basis, record a summary of the lab work completed.

5. REPRESENTATIVE OUTSIDE ASSIGNMENTS:

Out of class assignments may include, but are not limited to the following:

Homework problems are given every two weeks and grades; they are reviewed in class.

6. REPRESENTATIVE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

Title 5, section 55002(a) requires that a degree applicable course have a level of rigor that includes "critical thinking and the understanding and application of concepts determined by the curriculum committee to be at college level". Critical thinking may include, but is not limited to analysis, synthesis, and evaluation. Provide examples of assignments that demonstrate critical thinking.

1. Problem-solving is based on key concepts covered in lectures and lab experiments.
2. Analysis of lab results and error estimation.
3. Comparison of experimental results with results predicted by theory.

7. METHODS OF EVALUATION:

Title 5, section 55002 requires grades to be "based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students." Methods of evaluation may include, but are not limited to the following (please note that evaluation should measure the outcomes detailed "Course Objectives" at the beginning of Section II):

1. Lab work
2. Quizzes
3. Homework assignments
4. Monthly tests
5. Midterm and Final Exams

8. METHODS OF INSTRUCTION:

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

☒ Lecture
☒ Discussion

- ☒ Laboratory
- ☒ Activity
- ☐ Field Experience
- ☐ Independent Study
- ☒ Other (explain)

Computer-based activities

9. SUPPLIES:

List of supplies the student must provide.

None

10. COMPUTER COMPETENCY:

If applicable, explain how computer competency is included in the course.

Basic computer literacy: log on and launch a selected lesson.

11. INFORMATION COMPETENCY:

If applicable, explain how information competency is included in the course.

Follow the lab instructions on the computer list, conduct the experiments in sequential steps and record the results obtained at the end of each step.

12. DIVERSITY:

If applicable, explain how diversity (e.g., cultural, gender, etc.) is included in the course.

Open to one and all.

13. SCANS COMPETENCIES (required for all courses with vocational TOP Codes; recommended for all courses)**:**

SCANS (**S**ecretary's **C**ommission on **N**ecessary **S**kills) are skills the Department of Labor identified, in consultation with business and industry leaders, which reflect the skills necessary for success in the workplace. Check the appropriate boxes to indicate the areas where students will develop the following skills (please note that all SCANS competencies do not apply to all courses):

RESOURCES

☒ **Managing Time:** Selecting relevant goal-related activities, ranks them in order of importance, allocating time to activities, and understanding, preparing and following schedules.

☐ **Managing Money:** Using or preparing budgets, including making cost and revenue forecasts; keeping detailed records to track budget performance, and making appropriate adjustments.

☐ **Managing Material and Facility Resources:** Acquiring, storing, allocating, and distributing materials, supplies, parts, equipment, space or final products in order to make the best use of them.

INTERPERSONAL

☒ **Participating as Member of a Team:** Working cooperatively with others and contributing to group's efforts with ideas, suggestions and effort.

☐ **Teaching Others New Skills:** Helping others learn needed knowledge and skills.

☐ **Exercising Leadership:** Communicating thoughts, feelings, and ideas to justify a position, encouraging, persuading, convincing or otherwise motivating an individual or group, including responsibly challenging existing procedures, policies or authority.

☐ **Negotiating:** Working toward agreement that may involve exchanging specific resources or resolving divergent interests.

☒ **Working with Cultural Diversity:** Working well with men and women and with people from a variety of ethnic, social, or educational backgrounds.

INFORMATION

☐ **Acquiring and Evaluating Information:** Identifying a need for data, obtaining the data from existing sources or creating them, and evaluating their relevance and accuracy.

☒ **Organizing and Maintaining Information:** Organizing, processing and maintaining written or computerized records and other forms of information in a systematic fashion.

☒ **Interpreting and Communicating Information:** Selecting and analyzing information and communicating the results of others, using oral, written, graphic, pictorial, or multimedia methods.

☒ **Using Computers to Process Information:** Employing computers to acquire, organize, analyze and communicate information.

SYSTEMS

☒ **Understanding Systems:** Knowing how social, organizational and technological systems work and operating effectively with them.

☒ **Monitoring and Correcting Performance:** Distinguishing trends, predicting impacts of actions on system operations, diagnosing deviations in the functioning of a system/organization, and taking necessary steps to correct performance.

☐ **Improving or Designs Systems:** Making suggestions to modify existing systems in order to improve the quality of products or services and developing new or alternative systems.

TECHNOLOGY

☐ **Selecting Technology:** Judging which sets of procedures, tools or machines, including computers and their programs, will produce the desired results.

☒ **Applying Technology to Tasks:** Understanding overall intent and proper procedures for setting up and operating machines, including computers and their reprogramming systems.

☐ **Maintaining and Troubleshooting Equipment:** Preventing, identifying, or solving problems with equipment, including computers and other technologies.

Section III: RELATIONSHIP TO COLLEGE PROGRAMS

1. THIS COURSE WILL BE AN APPROVED REQUIREMENT[3] FOR AN APPROVED ASSOCIATE DEGREE OR CERTIFICATE PROGRAM: Yes

If yes, the course will be a program requirement portion of the "approved program" listed on the State Chancellor's Inventory of Approved Programs (approved programs can be found on the State Chancellor's Office website at http://misweb.cccco.edu/esed/webproginv/prod/invmenu.htm).

Requirement for AS in Electronics Technology (Program ID 02868) and requirement for certificate.

Note: In order for a course to be approved as a requirement for an associate degree or certificate program, the program must be listed on the State Chancellor's Office *Inventory of Approved Programs* AND the course must be listed in the college catalog as either a requirement or an elective for the program. If course is not part of an approved program at the college adopting the course, it will be considered to be a "stand-alone" course, and is subject to the State Chancellor's approval criteria and the college must complete and submit the Chancellor's Office "APPLICATION FOR APPROVAL OF CREDIT" form. Certain courses are granted "blanket approval" by the State Chancellor's Office and do not require approval. See the Chancellor's Office *Program and Course Approval Handbook* for details. LACCD Skills Certificates are **not State** approved programs listed on the Chancellor's Office *Inventory of Approved Programs*.

2. GENERAL EDUCATION REQUIREMENTS FOR THE ASSOCIATE DEGREE STATUS:

Area requested: none Approval date:

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas – *Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education* -- contained in Board Rule 6201.14 -General Education Requirements http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

2nd Area requested: none Approval date:

If applicable, provide an explanation of how the course meets General Education parameters for an additional general education area – *Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education* -- contained in Board Rule 6201.14 -General Education Requirements http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

Section IV: ARTICULATION INFORMATION

(Complete in consultation with College Articulation Officer)

1. TRANSFER STATUS:

University of California:

UC approval date:

California State University:

College approval date: **Pending**

2. GENERAL EDUCATION FOR TRANSFER:

IGETC Certification:

Area requested: none
Date requested:
IGETC approval date:

If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.

CSU Certification:

Area requested: none
Date requested:
CSU approval date:

If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.

2nd Area requested: none
Date requested:
IGETC approval date:

If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.

2nd Area requested: none
Date requested:
CSU approval date:

If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.

3. MAJOR REQUIREMENT FOR TRANSFER – Will this course be articulated to meet lower division major requirements? NO

CAN NUMBER: None CAN SEQUENCE NUMBER: None
CAN Approval -- Date requested: Date approved**:**

Section V: SUPPLEMENTAL COURSE INFORMATION

1. **DEPARTMENT/DIVISION NAME: Math, Engineering and Computer Science**

2. **DEPARTMENT/DIVISON CODE: 08**

3. **SUBJECT CODE** -- 3 characters, assigned by District Office: **346**

4. **SUBJECT ABBREVIATION** -- 7 characters, assigned by District Office: **ELECTRN**

5. **SPC CODE** -- 3 characters, assigned by District Office:

6. **ABBREVIATION FOR TRANSCRIPTS** -- 20 characters, assigned by District Office: **ELECTRN**

7. **DEGREE CREDIT:** Degree Applicable

8. **CREDIT/NO CREDIT GRADING:** No

9. **REPETITIONS** -- Number of times course may be repeated for credit (three maximum): 0

   How does the repetition of this course meet Title 5, section 58161 requirements? A course may be repeatable when, "course content differs each time it is offered, and that the student who repeats it is gaining an expanded educational experience for one of the following reasons: (A) Skills or proficiencies are enhanced by supervised repetition and practice within class periods; or (B) Active participatory experience in individual study or group assignments is the basic means by which learning objectives are obtained."

10. **PRIOR TO TRANSFERABLE LEVEL –** This course attribute applies to ***English***, ***writing***, ***ESL***, ***reading*** and ***mathematics*** courses ONLY. If applicable, indicate how many levels below the transferable level this course should be placed:

    Not applicable

11. **CREDIT BASIC SKILLS --** Title 5, section 55502(d) defines basic skills as "courses in reading, writing, computation, and English as a Second Language, which are designated as non-degree credit courses pursuant to Title 5, section 55002(b)."

    No If yes, course must be non-degree applicable

12. **CROSS REFERENCE** -- Is this course listed as equivalent in content to existing College/District courses in another discipline?

    No If yes, list courses: (documentation of cross-discipline agreement must be provided)

13. **COURSE SPECIFICALLY DESIGNED FOR STUDENTS WITH DISABILITIES --** Title 5, section 56029 allows a course to be repeatble when continuing success of the students with disabililties is dependent on additional repetitions of a specific class. Is this course designated as an "approved special class" for students with disabilities?

    No

    If yes, provide an explanation of how this course meets the requirements of Title 5, section 56029.

14. COOPERATIVE EDUCATION STATUS -- Title 5, section 55252 allows for two types of Cooperative Education: 1) General Work Experience Education -- i.e., supervised employment, which is intended to assist students in acquiring desirable work habits, attitudes and career awareness, which need not be related to the students' educational goals; or 2) Occupational Work Experience Education -- i.e., supervised employment, extending classroom based occupational learning at an on-the-job learning station, which is related to the students' educational or occupational goal. Is this course part of the college's approved cooperative work experience education program, according to?

No

15. COURSE CLASSIFICATION:

Liberal Arts and Sciences

Note: A course's Classification, TOP Code and SAM code must be aligned – e.g., Courses with an "Occupational" Course Classification must have an "Occupational" TOP Code **and** a SAM Code of A, B, C, or D; courses that do not have an "Occupational" Course Classification cannot have an Occupational TOP Code **and** must have an "E" SAM Code.

16. TOP CODE – (6 digits XXXX.XX) 0934.00

Course content should match discipline description in Taxonomy of Programs found at www.cccco.edu/cccco/esed/curric/curriculum.htm.

17. SAM CODE (**S**tudent **A**ccountability **M**odel)

D – Possibly Occupational

SAM Codes (see CCC Chancellor's Office *Student Accountability Model Operations Manual*, 1984) should be assigned as follows:

Priority "A" – Apprenticeship: Courses designed for an indentured apprentice must have the approval of the State of California, Department of Industrial Relations Department, Division of Apprenticeship Standards.

Priority "B" – **Advanced Occupational:** Courses taken by students in the advanced stages of their occupational programs. Courses should be offered in one specific occupational area only. Priority letter "B" should be assigned sparingly; in most cases, no more than two courses in any one program should be labeled "B." "B"-level courses must have Priority "C" prerequisites in the same program area.

Priority "C" – Clearly Occupational: Courses generally taken by students in the middle stages of their programs should have a difficulty level sufficient to detract "drop-ins." Courses may be offered in several occupational programs within a broad area. The "C" priority, however, should also be used for courses within a specific program area when the criteria for "B" classification are not met. A "C"-level course should provide the student with entry-level job skills.

Priority "D" -- Possibly Occupational: "D" courses are those taken by students in the beginning stages of their occupational programs. The "D" priority can also be used for service (or survey) courses for other occupational programs.

Priority "E" -- Non-occupational.

SECTION VI: APPROVAL STATUS

1. APPROVAL STATUS:

☒ New Course College Approval Date: **10/19/2004**	Board Approval Date:	Effective Semester: **Spring 2005**
☐ Addition of Existing District Course	College Approval Date:	Effective Semester:
☐ Course Change*	College Approval Date:	
☐ Outline Update	College Approval Date:	

* Changes to a course require the completion of a "Course Change Request" form and approval by the Curriculum Committee. In some cases districtwide approval is also required; see, Administrative Regulation E-65, section 3(c) for details.

SECTION VII: APPROVAL INFORMATION FOR NEW OR ADDED COURSES

(Complete in consultation with Department Chair and the appropriate Academic Administrator)

1. APPROPRIATENESS TO MISSION—Describe how the objectives of the proposed course are consistent with the mission of the community colleges as established by the Legislature in the Education Code. The course should also be congruent with the mission statement of the local college and district.

This course is in harmony with the mission statement; it works with other courses to provide career and occupational paths.

2. NEED—Demonstrate the need for the course that meets the stated objectives, at this time, and in the region.

As changes take place in the field of Electronics Technology, courses must reflect those changes also. This course, recommended by the Community Advisory Board, includes Computer Aided instruction and Computer Based Labs. It expands the base of foundational skills for moving into more specialized areas of computer electronics technology.

3. IF THIS IS A NEW COURSE, INDICATE HOW THE COLLEGE PLANS TO MEET THE EXPENSE OF THIS COURSE:

☐ By additional funds. Describe:

☒ By deleting courses from the college catalog and course database. List specific courses to be deleted:

Electronics 4 will be deleted; it has not been offered in recent years.

☐ By deleting sections of existing courses: List courses and number of sections to be deleted:

First year: Second year: Third year:

☐ By rotating sections of existing courses. List courses and number of sections to be rotated, as well as the semesters in which they will be offered:

4. IMPACT -- Will this course directly impact other course offerings and/or associate degree or certificate programs on campus?

No (If yes, briefly explain how)

5. METHOD OF SUPPORT/FEASIBILITY -- Indicate how the college plans to support the proposed course:

Additional staff- List additional staff needed:

None

Classroom- List classroom type needed:

Existing Electronics and Computer labs will be fully utilized.

Equipment- List new equipment needed and indicate funding source for any new equipment:

No new equipment needed

Supplies- List supplies and indicate dollar value:

Populated boards (electronic circuits) are available; no additional supplies needed.

Library/Learning Resources- List Library and Learning Resources needed, including the cost and funding source for needed resources:

Existing books on Computer Electronics Technology will be sufficient.

LOS ANGELES COMMUNITY COLLEGE DISTRICT
COURSE STANDARDS AND CRITERIA

Subject: **ELECTRONICS** Number: **15** Course Title: **Survey of Computer Electronics**

Using the Official Course Outline, please determine whether or not the above listed credit course meets the following standards and criteria required in Title V, Part VI of the California Administrative Code, and which has been designated as appropriate to the Associate Degree. Place a (X) in the appropriate box.

CRITERIA AND STANDARDS Section 55002	RATING CRITERION MET	 NOT MET
Is recommended by the responsible college officials, and the academic senate or other appropriate faculty body as meeting the requirements of this subsection and has been approved by the local district governing board as a course meeting the needs of the students for admission.	X	
Is taught by a credentialed instructor in the discipline.	X	
Is offered as described in an outline in official college files. That the outline shall specify the unit value, scope, objectives, content in terms of a specific body of knowledge, appropriate reading and writing assignments, outside of class assignments, instructional methodology and methods of evaluation for determining whether the stated objectives have been met by students.	X	
Is taught in accordance with a set of instructional objectives common to all students.	X	
Provides for measurement of students performance in terms of the stated course objectives and culminates in a formal recorded grade based upon uniform standards in accordance with Section 55578 of Title 5, which is permanently recorded as an evaluation of student performance; bases grades on demonstrated proficiency in subject matter determined by multiple measurement for evaluation; and has examinations, including essays and/or, where appropriate, uses appropriate symbol systems and/or skills demonstrations by students.	X	
Grants units of credit based upon a specified relationship between the number of lecture and/or laboratory hours or performance criteria specified in the course outline; and requires a minimum of three hours of work per week including class time for each unit of credit, prorated for short-term, lab and activity courses.	X	
Treats subject matter with a scope and intensity which requires students to study independently outside of class time.	X	
Requires, when appropriate, entrance skills and consequent prerequisites for the course before students are enrolled	X	
Requires the ability to think critically and to understand and apply concepts in order to participate in the course.	X	
Requires learning skills and a vocabulary appropriate for a college course.	X	
Requires the use of college level educational materials.	X	

CERTIFICATION AND RECOMMENDATION

☒ **This course meets Title 5 requirements for Associate Degree applicable college credit towards an Associate of Arts or Science Degree.**

☐ **This course meets Title 5 requirements but does not satisfy the requirements for an Associate Degree applicable course.**

We certify that the information and answers properly represent this course and that the design of the course is not in conflict with any law.

Neil Mantena	**10/19/04**
Originator	Date
James King	**10/19/04**
Department/Cluster Chairperson	Date
Linda Larson Singer	**10/30/04**
Articulation Officer	Date
Shelley Werts	**10/29/04**
Librarian	Date
Earnestine Thomas-Robertson	**11/09/04**
Dean (if applicable)	Date
Glenn Yoshida	**10/19/04**
Curriculum Committee Chairperson	Date
Reggie Morris	**11/09/04**
Academic Senate President	Date
Leige Henderson	**11/09/04**
Vice President, Academic Affairs	Date
Audre Levy	**11/10/04**
College President	Date