DEPARTMENT FACULTY/STAFF INPUT

An important part of the Program Review process is the consultation and input of all members of the department. Please have each member of the department both full-time and part-time sign below to acknowledge that they were consulted with during the process and were able to provide input.

NOTE: This signature does not indicate necessary approval of the data or the analysis or evaluation of the information contained inside this document. It is an indication that you had an opportunity to provide input in the process.

<table>
<thead>
<tr>
<th>Name of Faculty or Staff Member</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Thomas Faro</td>
<td></td>
</tr>
<tr>
<td>Khalid Rubayi</td>
<td></td>
</tr>
<tr>
<td>Darrell Harriman</td>
<td></td>
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<tr>
<td>George Rosander</td>
<td></td>
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<tr>
<td>Andy Jung</td>
<td></td>
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<tr>
<td>Ben Bertrand</td>
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</table>
PART I. ABSTRACT (EXECUTIVE SUMMARY)

The Electronics and Computer Technology Department provides students with college level associate degree program curriculums in electronics and computer engineering technology, career technology certificate programs in hi-tech and emerging technologies, professional growth courses, industry certification, and government licensing.

The Electronics and Computer Technology Department has documented educational and training objectives that are consistent with the mission of the college. The program has in place processes to regularly assess its progress against its objectives and uses the results of assessment to identify program improvements and to modify the program’s objectives.

Key measurement of quality includes:

- The program has documented educational and training objectives (SLO’s)
- The program’s objectives include expected outcomes for graduating students
- Mechanisms are in place to periodically review the program curriculums and courses
- The results of the department’s assessment are used to help identify and implement program improvement
- The results of the program’s review and the actions taken are documented
- All students must take a broad-based core of fundamental electronics and computer technology courses
- The core courses provide basic coverage of hardware and software, a modern programming language in the context of electronics, computer, and related technology
- Theoretical foundations, design, installation and maintenance are stressed throughout the program curriculums
- Students are exposed to a variety of electronics and computer technology systems
- All students must take at least eight semester-hours of advanced course work in electronics and/or computer technology that provides breadth and builds on the electronics and computer technology core

Declining and mixed enrollment trends are primarily due to program level management and other department planning and operating functions not made a part of administrative pattern. Constantly changing administrative processes and lack of flexibility (one policy fits all) has had a negative impact on the department’s operations.
PART II. KEY MEASUREMENTS OF QUALITY (KQMs)

Department specific data for this report provided by Administration:

- FTEs
- Enrollment
- Retention

No additional department specific data were considered for this report.

PART III: ANALYSIS OF KEY QUALITY MEASUREMENTS (KQMs)

Enrollment trends 1997 through 2002:
In terms of FTEs

Abrupt change in enrollment (FTEs) in 2003 due to interruption of department re-engineering project initiated and approved in 1999.
Other contributing factors related to declining and mixed enrollment trends:
• Administration primary focus changed from student success and accessibility to administrative and operational goals and objectives
• Division Dean and Department Chair’s role changed from one of program level management to one of process administrator
• No clear institutional strategy (plan for success) communicated from college leadership
• Change from 18 to 16 week semesters has resulted in fewer courses able to be offered between 6:15 pm and 10:00 pm time blocks. This has resulted in reassigning core courses to less accessible time blocks
• Technology mediated (independent study) courses approved under the 1995 MOU were rejected for renewal by Office of Instruction (Jeffrey Cooper). These courses were directed by the Office of Instruction to be offered as positive attendance with assigned time blocks.
• The Administration assigned the Electronics and Computer Technology Department’s storage area to the Automotive and Construction Technology Departments to store go-karts, automotive body parts, and Tech-X equipment. To allow the initial implementation of the department’s re-engineering project (CISCO Academy), the department was forced to allocate 500 square feet of instructional space to storage. This loss of this space led to fewer course offerings, especially in the area of professional growth and has had a negative impact on department enrollment.

KQM2 – Enrollment trend for the past 5 years

Enrollment patterns in vocational/technical education are directly related to relevant program curriculums, which in turn, depend on how the outside world moves. Predictions are concerned with the future and require information having strategic quantities. Information provided by the Administration for this report is accounting data (in-house) and provides a rearview mirror perspective--that is, it tells what had already happened. In a constantly changing environment, historic data provides little insight when forecasting the future.

KQM 3 – Retention rate:

Relative little specific data has been compiled to identify reasons why certain students withdraw from electronics and computer technology programs before completion. The chart below shows retention percentage distribution for Fall, Spring, and Summer sessions for a five-year period:
The Electronics and Computer Technology Department faculty and staff found that the background of the student with a high propensity to drop is predictable. Generally, these students come from a low or middle income environment where finances often prompt the choice of a two-year community college program. These students remain financially distressed throughout the program. The Electronics and Computer Technology Departments faculty and staff have increased their efforts to encourage students to apply for BOG and PELL grants, take advantage of student counseling, and the broad range of student services. Other groups of students susceptible to withdrawing before completing the electronics and computer technology program include:

- Working students, especially shift workers
- Young adults; high school graduates entering the program

The proctored open laboratory structure, and making the laboratory available on Saturdays has been very effective in improving the retention rate among working students (shift workers). The proctored open laboratory structure contributes to retention in two other important ways:

- Flexible hours are especially important to adult working student groups.
- Networking among students provides an environment where students (beginning and advanced) interact, work together, teach each other, and learn from each other.

Experience shows that student networking can improve retention rates among the young adults and borderline student groups.
KQM 5 – Success rate:

Traditional measures of student success are employed by department faculty: exams and passing grades. Additionally, student success is not always transparent. In technology education, it is the student who consumes knowledge and job-related skills as a service from the department. In the final analysis it is the employer who will determine student success, that is, the skills, knowledge, and attitudes of the student. Based on the number of graduating students successfully employed and the positive feedback from employers, the Electronics and Computer Technology Department has an extraordinary record of success.

KQM 7 – Course Transferability:

Students who plan to pursue a 4-year degree program in Electronics Engineering Technology, often complete their first two years of study at Victor Valley College and then transfer to a college or university. The skills learned in the electronics program allow the student to become financially self-sufficient. Industry that employs electronics technicians often share the expense of advanced education. Many of the courses required in the two-year engineering technology program, offered by the Electronics and Computer Technology Department, also can be applied toward the 4 year degree.

The following table summarizes the Victor Valley College electronics courses that are included in the current articulation agreements with local regional universities.

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<thead>
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Articulation agreements currently under review.
PART IV: CONCLUSIONS

The Electronics and Computer Technology Department’s program forecasting is considered from three viewpoints: immediate needs, short-term needs, and future needs. The basic purpose of this program forecast is

- To decide the Electronics and Computer Technology Department’s immediate, short-term, and long range direction, especially as this direction relates to changing occupational trends, emerging occupational requirements and resulting shifts in student educational and training needs, and curriculum interest.
- To decide what changes to make in adapting to the future.
- To order priorities to facilitate systematic internal improvement and change.

PART V: EXPLANATIONS

New and emerging technology is the result of integrating different technologies. For example, networking technology is the integration of telephone technology, computer technology, and electronic communications. The emergence of cross-technologies demands new knowledge and skill combinations and belongs to what might be called “third generation” of technologies, from the technical educator’s point of view. The first generation of occupational education was job-oriented, primarily involving well-identified activities in the skilled trades. It provided industry with skilled craftsmen. The second generation, which has become generally known as technical education, was field-oriented. The teaching emphasis shifted from procedural and manipulative skills to cognitive and analytical skills having a sound base in technical mathematics and science. In this phase, the Electronics and Computer Technology Department developed program curriculums in such fields as electronics technology, computer technology, television technology, industrial electronics, and etc. this phase provided industry with skilled technicians. The third generation is system oriented and cuts across these established fields. It provides industry with people having skill combinations that qualify them as networking, telecommunication, laser-optical, biomedical equipment, electrochemical, electromechanical, and nuclear medical technologist, for example. Technologists perform tasks that are beyond the capability of the technician trained in a single specialty or field. The figure below depicts the department’s transition from “first generation” or vocational education to the “third generation” or technology education.
## Electronics and Computer Technology

<table>
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<th>Craftsman</th>
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<td>Vocational Education</td>
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</table>


### Educational/Employment Spectrum

- Increasing
- Analytical
- Cross-Disciplinary Skills

- Increasing
- Manipulative
- Skills

### PART VI: GOALS

To complete the department’s transition to integrated technology education.

**Priority 1**

To address the department’s immediate needs and to implement final phase of the department’s re-engineering project (initiated in 1999):

Home Technology Integration (HTI) program curriculum. HTI is the installation, integration and troubleshooting of several inter-connected electro-computer-network subsystems within the home or business. This program will provide students the necessary knowledge and skills to pass ComTIA’s HTI+ industry’s certification exam.

The following is a one-year (2007 - 2008) forecast:

- Curriculum Committee approval on revised and new courses designed to support the implementation of the Home Technology Integration (HTI) program curriculum
- Submit to Chancellor’s Office new certification requirements, if required
- Re-establish prerequisites and co-requisite requirements
- Catalog changes
Develop marketing process

Equipment

The Home Technology Integrated (HTI) equipment designed to support the program curriculum is broken down into four modules:

- Residential Cabling Technologies (HTS-100) training module
- Residential Audio and Video Systems (HTS-200) training module
- Security, Access Control, and Surveillance (HTS-300) training module
- Automating and Integrating Residential Systems (HTS-400) training module

Estimated cost breakout requested from vendor:
### Equipment and material:

#### Price Summary

| Date       | 6/3/2007 | 1038 |

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RANESCO
PMB 201
4700 Irvine Blvd., Suite 105
Irvine, CA 92620
800-824-9039
RANESCO@prodigy.net
## Price Summary

**Date:** 03/2005  
**RANESCO**  
PMB 301  
4790 Irvine Blvd, Suite 105  
Irvine, CA. 92620  
800.824.4039  
RANESCO@prodigy.net

<table>
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<th>TERMS</th>
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### Price List

#### HEATHKIT HTS

**RESIDENTIAL CABLE SYSTEMS**

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**Total equipment and materials (not including taxes):** $53,000  
**Taxes and shipping:** $5,000

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*RANESCO Technical Training*

Department: Electronics and Computer Technology
Installation and integration (laboratory EL2)  

Priority 1 Total budget request 2007 - 2008 $70,000

The implementation of the Home Technology Integration program curriculum is connected with the following college-wide strategic goals:

- Student learning will be the central focus in the development and implementation of the Home Technology Integration (HTI) program curriculum.

- The college will effectively meet changing community needs for technology education and training leading to employment opportunities.

- The college will increase access opportunities by offering technology education and training programs to better serve an increasingly diverse population.

Priority 2

Modernize and update electronics technology programs and courses.

- Initiate a process to modernize and update electronics technology program curriculums and laboratory equipment

- Develop budget instrument for electronics technology program curriculums and course material development

- Develop budget instrument for electronics computer technology based laboratory program curriculums and course material development

Equipment

- Replace obsolete and malfunctioning electronics technology laboratory equipment

Training systems modules purchased in 1996 are obsolete and repair components are no longer available.

Currently there are 20 traditional electronic technology workstations that need updating. Required equipment:

- 20 multimeters.................................................................$6,000
Department: Electronics and Computer Technology

- 20 signal generators.................................................$7,000
- 20 power supplies....................................................$8,000
- 20 computer-based trainers....................................$80,000

Priority 2 Total budget request 2007 - 2008 $101,000

College-wide strategic goals:

Institutional Commitment to Student Learning and Student Success through Educational Excellence - Student learning will be the central focus in the development, implementation, evaluation, and improvement for all courses, programs, and services.

Economic and Community Development - The College will effectively meet changing community needs for education leading to employment, cultural enrichment, civic, political and social responsibilities.

Diverse Populations - The College will increase access opportunities by improving programs and services to better serve an increasingly diverse campus population.

Effective Technology Integration - The College will integrate and utilize technology and provide quality technological training for the creation and delivery of instruction, support of programs and services, and the improvement of institutional effectiveness to enhance student learning.