

# Computer Science Program Review 2012-2013

## 1. Program/Department Description

### 1A. Description

Ventura College's degree program provides opportunities for students who wish to continue their studies at a four-year institution in fields such as computer science, computer information sciences, information technology, or information systems management. Computer science education, moreover, seeks to prepare students for lifelong learning that will enable them to move beyond today's technology to meet the challenges of the future.

### Degrees/Certificates

Program's courses are designed to articulate to UC and CSU for transfer students.

A.S. Computer Science

Certificate of Achievement

### **1B. 2012-2013 Estimated Costs (Certificate of Achievement ONLY)**

*Required for Gainful Employment regulations.*

	Cost		Cost		Cost		Cost
Enrollment Fees		Enrollment Fees					
Books/Supplies		Books/Supplies					
Total		Total		Total		Total	

### 1C. Criteria Used for Admission

### 1D. College Vision

Ventura College will be a model community college known for enhancing the lives and economic futures of its students and the community.

### 1E. College Mission

Ventura College, one of the oldest comprehensive community colleges in California, provides a positive and accessible learning environment that is responsive to the needs of a highly diverse student body through a varied selection of disciplines, learning approaches and teaching methods including traditional classroom instruction, distance education, experiential learning, and co-curricular activities. It offers courses in basic skills; programs for students seeking an associate degree, certificate or license for job placement and advancement; curricula for students planning to transfer; and training programs to meet worker and employee needs. It is a leader in providing instruction and support for students with disabilities. With its commitment

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to workforce development in support of the State and region's economic viability, Ventura College takes pride in creating transfer, career technical and continuing education opportunities that promote success, develop students to their full potential, create lifelong learners, enhance personal growth and life enrichment and foster positive values for successful living and membership in a multicultural society. The College is committed to continual assessment of learning outcomes in order to maintain high quality courses and programs. Originally landscaped to be an arboretum, the College has a beautiful, park-like campus that serves as a vital community resource.

### **1F. College Core Commitments**

Ventura College is dedicated to following a set of enduring Core Commitments that shall guide it through changing times and give rise to its Vision, Mission and Goals.

- Student Success
- Respect
- Integrity
- Quality
- Collegiality
- Access
- Innovation
- Diversity
- Service
- Collaboration
- Sustainability
- Continuous Improvement

### **1G. Program/Department Significant Events (Strengths and Successes)**

- CS courses are required by **most** universities for Science and Engineering majors.
- In August of 2011 a full-time math faculty was restricted by the district from teaching CS courses. The reason given for this action was that there is no record that this faculty member was hired by the district to teach CS. This is despite the fact that this faculty member was recruited to spearhead a grant funded project beginning in 1999 to create the current CS program.

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### K. Organizational Structure

President: Robin Calote

Executive Vice President: Ramiro Sanchez

Dean: David Oliver

Department Chair:

### Instructors and Staff

<b>Name</b>	<b>Rabindranath Polito</b>
Classification	Adjunct Faculty
Year Hired	<b>1995</b>
Years of Work-Related Experience	<b>13 years as Programmer Analyst, 17 years teaching experience</b>
Degrees/Credentials	<b>MS Mathematics, MS Electrical Engineering(IERF Certified)</b>

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## 2. Performance Expectations

### 2A. Student Learning Outcomes

#### 2A1. **2012-2013** - *Institutional* Student Learning Outcomes

1. Communication - written, oral and visual
2. **Reasoning - scientific and quantitative**
3. **Critical thinking and problem solving**
4. Information literacy
5. Personal/community awareness and academic/career responsibilities

#### 2A2. **2012-2013** - *Program* Level Student Learning Outcomes

*For programs/departments offering degrees and/or certificates*

- 1.
- 2.

#### 2A3. **2012-2013** - *Course* Level Student Learning Outcomes

*Attached to program review (See appendices).*

### 2B. **2012-2013** Student SUCCESS Outcomes

1. The program will continue to increase the retention rate from the average of the program's prior three-year retention rates.
2. The program will continue to increase the retention rate from the average of the college's prior three-year retention rate.

### 2C. **2012-2013** Program OPERATING Outcomes

1. The program will maintain the WSCH/FTEF above the 525 goal set by district.
- 2.

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### 2D. Mapping of Student Learning Outcomes - Refer to TracDat

### 3. Operating Information

#### 3A. Productivity Terminology Table

<b>Sections</b>	A credit or non-credit class. Does not include not-for-credit classes (community education).
<b>Census</b>	Number of students enrolled at census (typically the 4 <sup>th</sup> week of class for fall and spring).
<b>FTES</b>	Full Time Equivalent Students A student in the classroom 15 hours/week for 35 weeks (or two semesters) = 525 student contact hours. 525 student contact hours = 1 FTES. Example: 400 student contact hours = $400/525 = 0.762$ FTES. The State apportionment process and District allocation model both use FTES as the primary funding criterion.
<b>FTEF</b>	Full Time Equivalent Faculty A faculty member teaching 15 units for two semesters (30 units for the year) = 1 FTE. Example: a 6 unit assignment = $6/30 = 0.20$ FTEF (annual). The college also computes semester FTEF by changing the denominator to 15 units. However, in the program review data, all FTE is annual. FTEF includes both Full-Time Faculty and Part-Time Faculty. FTEF in this program review includes faculty assigned to teach extra large sections (XL Faculty). This deviates from the prior practice of not including these assignments as part of FTEF. However, it is necessary to account for these assignments to properly represent faculty productivity and associated costs.
<b>Cross Listed FTEF</b>	FTEF is assigned to all faculty teaching cross-listed sections. The FTEF assignment is proportional to the number of students enrolled at census. This deviates from the practice of assigning load only to the primary section. It is necessary to account for these cross-listed assignments to properly represent faculty productivity and associated costs.
<b>XL FTE</b>	Extra Large FTE: This is the calculated assignment for faculty assigned to extra large sections (greater than 60 census enrollments). The current practice is not to assign FTE. Example: if census > 60, 50% of the section FTE assignment for each additional group of 25 (additional tiers).
<b>WSCH</b>	Weekly Student Contact Hours The term "WSCH" is used as a total for weekly student contact hours AND as the ratio of the total WSCH divided by assigned FTEF. Example: 20 sections of 40 students at census enrolled for 3 hours per week taught by 4.00 FTEF faculty. $(20 \times 40 \times 3) = 2,400$ WSCH / 4.00 FTEF = 600 WSCH/FTEF.
<b>WSCH to FTES</b>	Using the example above: $2,400$ WSCH x 35 weeks = 84,000 student contact hours = $84,000 / 525 = 160$ FTES (see FTES definition). Simplified Formulas: $FTES = WSCH/15$ or $WSCH = FTES \times 15$
<b>District Goal</b>	Program WSCH ratio goal. WSCH/FTEF The District goal was set in 2006 to recognize the differences in program productivity.

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### **3B: Student Success Terminology**

<b>Census</b>	Number of students enrolled at Census (typically the 4 <sup>th</sup> week of class for fall and spring). Census enrollment is used to compute WSCH and FTES for funding purposes.
<b>Retain</b>	Students completing the class with any grade other than W or DR divided by Census Example: 40 students enrolled, 5 students dropped prior to census, 35 students were enrolled at census, 25 students completed the class with a grade other than W or DR: Retention Rate = $25/35 = 71\%$
<b>Success</b>	Students completing the class with grades A, B, C, CR or P divided by Census Excludes students with grades D, F, or NC.

Program specific data was provided in Section 3 for all programs last year. This year, please refer to the data sources available

at [http://www.venturacollege.edu/faculty\\_staff/academic\\_resources/program\\_review.shtml](http://www.venturacollege.edu/faculty_staff/academic_resources/program_review.shtml)

In addition, the 2011-2012 program review documents will provide examples of last year's data and interpretations.

**3C:** 2012 - 2013 Please provide program interpretation for the following:

#### **3C1: Interpretation of the Program Budget Information**

The budget for Computer Science has decreased dramatically in recent years. There is currently only one part-time instructor in the area, with very limited course offerings. This is at partially due to budget cuts at the college.

#### **3C2: Interpretation of the Program Inventory Information**

There is no real inventory listed for Computer Science.

#### **3C3: Interpretation of the Program Productivity Information**

Computer Science has greatly exceeded district goals for productivity each of the last three years.

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### **3C4: Interpretation of the Program Course Productivity Information**

Enrollment in all courses offered has been very high for each of the last three years. Productivity has exceeded district goals.

### **3C5: Interpretation of Program Retention, Student Success, and Grade Distribution**

The program has a very high success and completion rate. More than 80% of students of students complete the courses they sign up for, and more than 70% are successful. This is very favorable compared to other similar programs. Approximately 60% of students earn an A in these courses, which is tremendously high.

### **3C6: Interpretation of the Program Completion Information**

There have been no Computer Science degrees awarded in the last three years.

### **3C7: Interpretation of the Program Demographic Information**

The program demographics are representative of the college, except for a very low percentage of females. More should be done to attract women to Computer Science.

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## 4. Performance Assessment

### 4A1: 2012-2013 Institutional Level Student Learning Outcomes

Institutional Level Student Learning Outcome 1	Performance Indicators
Communication	
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

Institutional Level Student Learning Outcome 2	Performance Indicators
Reasoning – Scientific and Quantitative	
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

Institutional Level Student Learning Outcome 3	Performance Indicators
Critical Thinking and problem solving	
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	



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Institutional Level Student Learning Outcome 4	Performance Indicators
Information Literacy	
Operating Information	
Analysis – Assessment	

Institutional Level Student Learning Outcome 5	Performance Indicators
Personal/community awareness and academic / career responsibilities	
Operating Information	
Analysis – Assessment	

**4A2:** 2012-2013 Program Level Student Learning Outcomes - For programs/departments offering degrees and/or certificates

Program-Level Student Learning Outcome 1	Performance Indicators
Operating Information	
Analysis – Assessment	

Program-Level Student	Performance Indicators
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<b>Learning Outcome 2</b>	
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

<b>Program-Level Student Learning Outcome 3</b>	<b>Performance Indicators</b>
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

<b>Program-Level Student Learning Outcome 4</b>	<b>Performance Indicators</b>
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

<b>Program-Level Student Learning Outcome 5</b>	<b>Performance Indicators</b>
<b>Operating Information</b>	
<b>Analysis – Assessment</b>	

**4A3:** 2012-2013 **Course Level Student Learning Outcomes - Refer to TracDat**

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## 4B: 2012-2013 Student Success Outcomes

Student Success Outcome 1	Performance Indicators
Operating Information	
Analysis – Assessment	

Student Success Outcome 2	Performance Indicators
Operating Information	
Analysis – Assessment	

## 4C. 2012-2013 Program Operating Outcomes

Program Operating Outcome 1	Performance Indicators
Operating Information	
Analysis – Assessment	

Program Operating Outcome 2	Performance Indicators
Operating Information	
Analysis – Assessment	

## 4D. Program Review Rubrics for Instructional Programs

### Academic Programs

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Point Value	Element	Score
Up to 6	Enrollment demand	6
Up to 6	Sufficient resources to support the program (ability to find qualified instructors; financial resources; equipment; space)	2
Up to 4	Agreed-upon productivity rate	4
Up to 4	Retention rate	4
Up to 3	Success rate (passing with C or higher)	3
Up to 3	Ongoing and active participation in SLO assessment process	2
Total Points	Interpretation	
22 – 26	Program is current and vibrant with no further action recommendation	
18 – 21	Recommendation to attempt to strengthen the program	
Below 18	Recommendation to consider discontinuation of the program	

**TOTAL      21**

### CTE Programs

Point Value	Element	Score
Up to 6	Enrollment demand	
Up to 6	Sufficient resources to support the program (ability to find qualified instructors; financial resources; equipment; space)	
Up to 6	Program success (degree / certificate / proficiency award completion over 4 year period)	
Up to 4	Agreed-upon productivity rate	
Up to 4	Retention rate	
Up to 4	Employment outlook for graduates / job market relevance	
Up to 3	Success rate (passing with C or higher)	
Up to 3	Ongoing and active participation in SLO assessment process	
Total Points	Interpretation	
31 - 36	Program is current and vibrant with no further action recommendation	
25 - 30	Recommendation to attempt to strengthen the program	
Below 25	Recommendation to consider discontinuation of the program	

### 5. Findings

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### **2012-2013** - FINDINGS

**Finding 1:** The program needs a full-time faculty member. This will ensure that proper curriculum changes are made, and that course offerings satisfy student demand.

**Finding 2:** The program is very productive.

**Finding 3:** The program has very high success and retention rates.

**Finding 4:** The program should try to attract a higher proportion of females.

**Finding 5:**

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## 6. Initiatives

### 6A: 2011-2012 - Initiatives

**Initiative** Hire a full-time faculty member in CS.

**Initiative ID** CS1201

#### Links to Finding 1

**Benefits:** Revamping of the program, growth of the program, increase in the number of degrees, and better access to courses necessary for transfer for the Science majors.

**Request for Resources - 108,000 personnel.**

**Funding Sources** General fund budget

No new resources are required (use existing resources)	N
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	Y
Requires computer equipment funds (hardware and software)	N
Requires college equipment funds (other than computer related)	N
Requires college facilities funds	N
Requires other resources (grants, etc.)	N

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### 2011 - 2012 FINAL Program Initiative Priority Ratings

Line Number	Program	Category	Program Priority (0, 1, 2, 3...)	Division Priority (R, H, M, L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	Adjusted Cost	Accumulated Costs	Full Time or Part Time
1	Computer Science	Faculty	1	M			CS1201	Full-time faculty	faculty growth position	108,000	108,000	108,000	FT

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### 6B: 2012-2013 INITIATIVES

Initiative ID should be consistent. For example:

2011-2012 identified initiatives - ART1201, ART1202, etc.

2012-2013 identified initiatives - ART1301, ART1302, etc.

#### Initiative 1 Full-time hiring for CS

Initiative ID CS1301

Links to Finding 1

**Benefits** - [Revamping of the program, growth of the program, increase in the number of degrees, and better access to courses necessary for transfer for the Science majors.](#)

**Request for Resources 108,000 personnel**

**Funding Sources**

No new resources are required (use existing resources)	N
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	Y
Requires computer equipment funds (hardware and software)	N
Requires college equipment funds (other than computer related)	N
Requires college facilities funds	N
Requires other resources (grants, etc.)	N

**Initiative 2:**

**Initiative 3:**

**Initiative 4:**



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6C: 2012-2013 Program Initiative Priority Ratings

Program	Finding Number	Category	Program Priority (R, H, M, L)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost
CS	1		H				CS1301	Full-time hire in CS	Personnel	108,000

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### **6D: PRIORITIZATIONS OF INITIATIVES WILL TAKE PLACE AT THE PROGRAM, DIVISION, COMMITTEE, AND COLLEGE LEVELS:**

#### **Program/Department Level Initiative Prioritization**

All initiatives will first be prioritized by the program/department staff. Prioritize the initiatives using the **RHML** priority levels defined below.

#### **Division Level Initiative Prioritization**

The program initiatives within a division will be consolidated into division spreadsheets. The dean may include additional division-wide initiatives. All initiatives will then be prioritized using the **RHML** priority levels defined below.

#### **Committee Level Initiative Prioritization**

The division's spreadsheets will be prioritized by the appropriate college-wide committees (staffing, technology, equipment, facilities) using the **RHML** priority levels defined below.

#### **College Level Initiative Prioritization**

Dean's will present the consolidated prioritized initiatives to the College Planning Council. The College Planning Council will then prioritize the initiatives using the **RHML** priority levels defined below.

**R:** Required – mandated or unavoidable needs (litigation, contracts, unsafe to operate conditions, etc.).

**H:** High – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

**M:** Medium – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

**L:** Low – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

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### 7. Process Assessment and Appeal

#### **7A. Purpose of Process Assessment**

The purpose of program review assessment is to evaluate the process for continual improvement. The process is required for accreditation and your input is very important to us as we strive to improve.

#### **7B. 2012 - 2013 ASSESSMENT QUESTIONS**

1. Did you complete the program review process last year, and if so, did you identify program initiatives?
  
- 2a. Were the identified initiatives implemented?
  
- 2b. Did the initiatives make a difference?
  
3. If you appealed or presented a minority opinion for the program review process last year, what was the result?
  
4. How have the changes in the program review process worked for your area?
  
5. How would you improve the program review process based on this experience?

#### **7C. Appeals**

After the program review process is complete, your program has the right to appeal the ranking of initiatives.

If you choose to appeal, please complete the appropriate form that explains and supports your position. Forms are located at the Program Review VC website.

The appeal will be handled at the next higher level of the program review process.