

*The Program Review process should serve as a mechanism for the assessment of performance that recognizes and acknowledges good performance and academic excellence, improves the quality of instruction and services, updates programs and services, and fosters self-renewal and self-study. Further, it should provide for the identification of weak performance and assist programs in achieving needed improvement. Finally, program review should be seen as a component of campus planning that will not only lead to better utilization of existing resources, but also lead to increased quality of instruction and service. A major function of program review should be to monitor and pursue the congruence between the goals and priorities of the college and the actual practices in the program or service.*

~Academic Senate for California Community Colleges

## INSTRUCTIONS

For information about cycles for *Comprehensive Program Review and Planning*, see Instructional and Student Services program review rotation schedules posted online in their respective sections of the program review webpage:

[http://collegeofsanmateo.edu/prie/program\\_review/program\\_review.php](http://collegeofsanmateo.edu/prie/program_review/program_review.php))

### **Resources for Supporting Documentation:**

A listing of resources and documents which provide data or information for each section is included at the end of this document, after the final signature page. These resources are posted online and their URLs are listed at the end of this document.

(You may delete this section, when you submit your final program review.)

### **Next Steps:**

*Program Review and Planning* reports are due March 25, 2012. This date is aligned with CSM's *Integrated Planning Calendar*. (See: <http://collegeofsanmateo.edu/prie/planning.asp>)

Upon its completion, please email this *Program Review and Planning* report to the Vice President of Instruction, the Vice President of Student Services, the appropriate division dean, the CSM Academic Senate President, and the Dean of Planning, Research, and Institutional Effectiveness (PRIE).

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## DEPARTMENT OR PROGRAM: Engineering

### DIVISION: Math/Science

#### I. DESCRIPTION OF PROGRAM

The engineering program provides the lower division engineering classes necessary for transfer to baccalaureate programs in various engineering fields. All transfer students in engineering typically take Math (251, 252, 253, 270, 275), Chemistry (210, often 220 also), and Physics (250, 260, 270). Depending on transfer school and major, students also take 1-6 engineering classes and 0-3 CIS classes.

The program offers six engineering courses clustered into three math prerequisite levels.

**Prereq of Math 130:**

ENGR 100 Introduction to Engineering

ENGR 210 Engineering Graphics

**Prereq of Math 251:**

ENGR215 Computational Methods for Engineers and Scientists

ENGR 270 Materials Science (also requires Chem 210)

**Prereq of Math 252 or beyond:**

ENGR 230 Engineering Statics (also requires Phys 250)

ENGR 260 Engineering Circuits (also required Phys 260)

Note: ENGR 240 Engineering Dynamics has not been offered recently and will be banked unless a comparable course is part of the Engineering TMC currently under development.

One course at each prerequisite level is offered in each semester. Curricular offerings are coordinated with Cañada College's engineering program to provide greater flexibility for students. Enrollment is such that each campus offers only a single section of each course in an academic year. By coordinating courses, we provide students with the option of taking ENGR 100 (F CSM, Sp Cañada), ENGR210 (F Cañada, Sp CSM), ENGR230 (F CSM, Sp Cañada), and ENGR270 (F Cañada, Sp CSM) in either semester. Additionally, students can take ENGR215 (historically F CSM only; recently added in Sp at Cañada), ENGR 111 (Cañada only) and ENGR240 (Cañada only). ENGR260 is offered in the spring semester at both campuses due to its extensive prerequisites.

Although the program offers an A.S. degree in engineering, the B.S. degree is considered necessary for work in the field and most students do not take classes beyond those required for transfer.

The program also offers an A.S. degree in engineering technology. This degree includes one engineering course, ENGR 210, (along with physics, math, and elective technology courses).

#### II. STUDENT LEARNING OUTCOMES (SLOs)

- a. Please list the courses, if any, for which SLOs have not been assessed. What assessment is planned for these courses? What assistance or resources would help to complete assessment?

SLOs have been assessed for all courses (ENGR 100, 210, 215, 230, 260, 270). However the results of assessment have not been entered into Trackdat. The full time faculty member will take care of Trackdat entry before the end of the spring semester, 2012.

- b. Please list any degrees offered. Have SLOs been identified for each degree?  
Briefly describe the department's plan for assessment.

A.S. Engineering, A.S. Engineering Technology General: degree SLOs have been submitted to and reviewed by the Assessment Committee. The department plans to use a student self-assessment exit survey as the initial means of assessment.

- c. Please list any certificates offered. Have SLOs been identified for each certificate?  
Briefly describe the department's plan for assessment.

No certificates offered.

- d. Based on assessment results, 1) what changes will the department consider or implement to improve student learning; and 2) what, if any, resources will the department or program require to implement these changes? (Please itemize these resources in section VII of this document.)

Assessment results for the ENGR 210 SLO dealing with dimensioning and tolerancing indicate that the end-of-term design project does not provide appropriate context for assessment. The end-of-term project has been revised to include a preliminary design component and a mechanical dissection component. The latter provides appropriate context for assessing students' ability to correctly dimension and tolerance mechanical parts. Old lab equipment has provided assemblies suitable for mechanical dissection for the past two years; no additional resources should be required for the next few years.

The ENGR 215 SLOs have been updated effective Fall 2012 to include numerical solution of differential equations, a portion of the course that has not been previously assessed.

- e. Below please update the program's SLO Alignment Grid below. The column headings identify the General Education (GE) SLOs. In the row headings (down the left-most column), input the course numbers (e.g. ENGL 100); add or remove rows as necessary. Then mark the corresponding boxes for each GE-SLO with which each course aligns.

If this *Program Review and Planning* report refers to a vocational program or a certificate program that aligns with alternative institutional-level SLOs, please replace the GE-SLOs with the appropriate corresponding SLOs.

GE-SLOs→ Program Courses ↓	Effective Communication	Quantitative Skills	Critical Thinking	Social Awareness and Diversity	Ethical Responsibility
ENGR 100	X (secondary)	X (primary)	X (primary)		X(tertiary)
ENGR 210	X (secondary)	X (primary)	X (primary)		
ENGR 215		X (primary)	X (primary)		
ENGR 230		X (primary)	X (primary)		
ENGR 260		X (primary)	X (primary)		
ENGR 270	X(tertiary)	X (primary)	X (primary)		

### III. DATA EVALUATION

- a. Referring to the Enrollment and WSCH data, evaluate the current data and projections. If applicable, what programmatic, course offering or scheduling changes do trends in these areas suggest? Will any major changes being implemented in the program (e.g. changes in prerequisites, to-be-arranged hours (TBA), lab components. etc.) require significant adjustments to the Enrollment and WSCH projections?

Enrollment and WSCH increased significantly in 2009-10, then dropped on 2010-11 (though remaining above the 2008-9 level). Of greater concern is the drop in retention and success in 2010-11. Enrollments remain strong in the "entry-level" courses (those with the lowest math prerequisite level; ENGR 100 in fall, ENGR 210 in spring), but are much weaker in the more advanced classes (ENGR 230, 260, and 270).

The fall section of ENGR 100 has been full with a waitlist during the past few years. To provide access for a greater number of students and to facilitate concurrent enrollment, a summer section of ENGR 100 has been added in 2012. To provide increased flexibility for more advanced students, cross-listed hybrid sections have been added to ENGR 215 (starting Fall 2009) and ENGR 230 (starting Fall 2011). A hybrid offering of ENGR 270 is under consideration for Spring 2013.

- b. Referring to the Classroom Teaching FTEF data, evaluate the current data and projections. If applicable, how does the full-time and part-time FTEF affect program action steps and outcomes? What programmatic changes do trends in this area suggest?

Engineering course offerings have been identical from 2008-9 through 2010-11 (but for the cross-listed sections, which do not affect FTEF). The observed differences in FTEF during this period thus reflect changes in the load associated with HBA/TBA hours and non-classroom assignments. The annual FTEF associated with engineering classes (excluding HBA/TBA hours) is 1.72, as reported for 2009-10. The increased FTEF to 2.00 in 2010-11 is attributable to compensated HBA/TBA hours for adjunct faculty and to load that the full time faculty member carried in the Math Resource Center in spring 2011, rather than to changes engineering course offerings.

The full time engineering faculty member also serves as faculty advisor. The resulting bridge between instruction and student services is beneficial for the program and for the college. It also allows one engineering course to be taught by an adjunct with expertise in the appropriate field of engineering, enhancing students' exposure to the profession.

For the past several years, the full time engineering faculty member has taken on college-level roles (COI chair, accreditation co-editor) that have reduced her time in the classroom. An additional adjunct faculty member was brought into the program in spring 2011, but left during spring 2012 for full time employment as an engineer. The current non-engineering responsibilities of the full time faculty member make it difficult for her to support the program's needs outside the classroom, but this should change upon completion of the accreditation self evaluation at the end of Spring 2013.

- c. Referring to the Productivity (LOAD) data, discuss and evaluate the program's productivity relative to its target number. If applicable, what programmatic changes or other measures will the department consider or implement in order to reach its productivity target? If the productivity target needs to be adjusted, please provide a rationale.

Low enrollment in advanced engineering courses means that LOAD will continue to be an issue for the program. Small changes in enrollment or instruction hours can result in large LOAD changes, as both the number of sections and the total enrollments are small. The increase in FTEF due to full time faculty load in the Math Resource Center in spring 2011 resulted in a LOAD decrease that is not indicative of the performance of the engineering program. A recalculation of LOAD for 2010-11 using the 1.72 FTEF directly associated with engineering courses results in an adjusted LOAD of 458. This is still lower than desired, but much higher than the reported LOAD of 394.

Students who transfer in engineering complete 21 units of advanced math classes, 12 units of physics classes, 5-10 units of chemistry, and 0-12 units of CIS classes in addition to the one to six engineering classes. Without the attraction of the engineering program, many might take all these classes elsewhere. However, the low enrollment in advanced engineering classes must be addressed if the program is to remain viable.

#### IV. STUDENT SUCCESS EVALUATION AND ANALYSIS

- a. Considering the overall "Success" and "Retention" data, briefly discuss how effectively the program addresses students' needs relative to current, past, and projected program and college student success rates.

Discuss distance education (online and hybrid modes) success and retention data and, where possible, compare with data for on campus sections.

If applicable, identify unmet student needs related to student success and describe programmatic changes or other measures the department will consider or implement in order to improve student success. (*Note that item IV b, below, specifically addresses equity, diversity, age, and gender.*)

Engineering students are determined; engineering classes can be difficult. What is key is not only success at CSM prior to transfer, but success in upper division courses after transfer. A lower division engineering program that offers increased challenge and difficulty through the three levels of math prerequisites provides solid preparation for success after transfer.

Student retention rates have typically been a bit above 80%, with success rates around 75%. Both measures decreased in 2010-11. This is due in part to the drop in retention and success rates for the cross-listed hybrid section of ENGR 215 in fall 2010 as compared with Fall 2009. Fall 2011 retention and success rates in the hybrid section, while lower than those in traditional courses, are much better than the fall 2010 values.

The new hybrid offering of ENGR 230 in fall 2011 attracted only 5 students; retention and success were poor (2 of 5 completed the course; 1 of 5 succeeded). An enhanced approach to delivering hybrid content will be used and evaluated in fall 2012. Retention and success in hybrid courses must be improved if these courses are to remain a viable part of the program.

Though not captured in the tabulated student success data, there is need for an improved method of delivering the lecture component of ENGR 270. In universities, the lecture component of this course frequently includes demonstrations (similar to those used in a physics or chemistry course), something that would difficult to implement with current equipment and classroom space. One alternative would be a hybrid offering of ENGR 270 in which the lab and TBA components would be carried out in person and the lecture component would be delivered online. The current "death by Powerpoint" lectures would be replaces by "virtual" demonstrations and simulations that draw upon freely available web content supplemented by instructor-developed material.

- b. Briefly discuss how effectively the program addresses students' needs specifically relative to equity, diversity, age, and gender. If applicable, identify unmet student needs and describe programmatic changes or other measures the department will consider or implement in order to improve student success with specific regard to equity, diversity, age, and gender.

Engineering courses are taken by students with a broad range of ethnicity. The small number of students in the program makes it difficult to draw conclusions about success across groups. Engineering enrollments remain heavily male; the percentage of women students remains smaller than the national average for engineering programs. However, the national average includes bioengineering and environmental engineering, which have larger fractions of women but typically do not require many lower division engineering courses for transfer.

## **V. REFLECTIVE ASSESSMENT OF INTERNAL AND EXTERNAL FACTORS AND PROGRAM/STUDENT**

- a. Using the matrix provided below and reflecting on the program relative to students' needs, briefly analyze the program's strengths and weaknesses and identify opportunities for and possible threats to the program (SWOT analysis). See page 10 for definition of SWOT). Consider both external and internal factors. For example, if applicable, you might consider changes in our community and beyond (demographic, educational, social, economic, workforce, and, perhaps, global trends); look at the demand for the program; program review links to other college and District programs and services offered; look at similar programs at other area colleges; and investigate auxiliary funding.

	INTERNAL FACTORS	EXTERNAL FACTORS
<b>Strengths</b>	<ul style="list-style-type: none"> <li>• The strong preparation provided by CSM's math and physics programs continues to produce students who are well prepared for engineering courses.</li> <li>• Participation of the full time engineering faculty member in counseling and other college service increases program visibility.</li> <li>• The program's location in building 19 allows the sharing of drafting and electronics facilities and facilitates interaction between engineering and technology students.</li> <li>• The engineering student study room in 19-042 provides a casual gathering place for group study outside of class with easy access to the faculty in 19-046.</li> </ul>	<ul style="list-style-type: none"> <li>• Students who transfer and complete a B.S. degree in engineering continue to find high-paying jobs that make visible contributions to society.</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>• The full-time faculty member is active in college-level committees and in student services (and also provides support to architecture). It is difficult to find time for departmental-level administrative tasks (program review, assessment, updating of curriculum), effective outreach to local high schools, and additional activities outside the classroom such as organization of the alumni panel and transfer panels.</li> <li>• Retention and success rates in hybrid offerings are low.</li> <li>• Engineering enrollment remains heavily male and the number of women taking engineering classes remains small.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no formal support program outside of classes for engineering students. Our sister colleges to the north and south both have active MESA programs. Incoming students interested in math, science, and engineering may be drawn to Skyline and especially to Cañada for the added support provided by MESA and the high visibility of the Cañada engineering program.</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• The engineering club was restarted by students in Spring 2010 and has remained active in the 2010-11 and 2011-12 academic years.</li> </ul>	<ul style="list-style-type: none"> <li>• The development of one or more engineering TMC degrees may provide greater consistency in requirements across transfer</li> </ul>



	<ul style="list-style-type: none"> <li>The possible establishment of a MESA program at CSM would provide additional support for students who many not currently progress to the level of math required for engineering courses.</li> </ul>	<p>programs.</p> <ul style="list-style-type: none"> <li>Restriction of enrollments at CSU and UC campuses may lead to increased enrollment of students with a higher level of academic preparation; for these students, transfer in engineering within 2 to 2 ½ years is feasible.</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>The engineering program benefits from the sharing of facilities with the drafting, electronics, and CIS programs. Tight budgets and the reconfiguration of some of these programs may lead to the need for engineering to contribute more funds for shared software and hardware.</li> <li>Enrollment in engineering courses with more advanced physics and math prerequisites remains low and is a cause for concern.</li> <li>Lab equipment used in ENGR 270 is aging and will be expensive to replace. Major equipment requests will be postponed for a year pending development of a C-ID descriptor for the lab component of the course.</li> </ul>	<ul style="list-style-type: none"> <li>The lack of coherence in lower division programs at transfer schools means that each engineering course is required by fewer programs than in the past.</li> <li>A large fraction of students come to CSM in need of remedial math; it may be difficult to attract these students to a major that typically requires completion of precalculus and then 2 ½ to 3 years of additional study prior to transfer.</li> <li>External job opportunities as the economy improves may make it difficult to retain high quality adjunct instructors.</li> </ul>

- b. If applicable, discuss how new positions, other resources, and equipment granted in previous years have contributed towards reaching program action steps and towards overall programmatic health. If new positions, equipment, or other resources have been requested but not granted, discuss how this has impacted overall programmatic health. (You might reflect on data from Core Program and Student Success Indicators for this section.)

Lottery funds have allowed license renewal for the software packages used in ENGR 215 and ENGR 210 (ENGR 210 software is primarily supported through technology division funds). Supply funding has so far been sufficient to purchase lab specimens and replacement parts for ENGR 270 and 260. Modest equipment funds and creative maintenance have allowed the continued use of aging equipment. No new positions have been requested.

## VI. Goals, Action Steps, and Outcomes

- a. Identify the program's goals. Goals should be broad issues and concerns that incorporate some sort of measurable action and should connect to CSM's *Educational Master Plan, 2008 (EMP); Data Updates to EMP, 2011-12; College Index, 2008/9-2011/12; Institutional Priorities, 2008-2011; 5 & 5 College Strategies; GE-SLOs; SLOs.*

Goal 1: Increase enrollment, especially in more advanced courses.

Goal 2: Increase awareness of and access to the engineering program for students at or below Math 130.

Goal 3: Increase opportunities for student involvement outside the classroom.

Goal 4: Improve articulation of engineering courses.

- b. Identify the action steps your program will undertake to meet the goals you have identified.

To increase enrollment, especially in more advanced courses (Goal 1)

- Faculty will update and enhance the engineering transfer guidance document to show the majors and transfer school for which advanced courses are required and recommended.
- Faculty will implement an enhanced approach to hybrid courses with richer use of interactive and multimedia content.
- Aging laboratory equipment will be replaced or updated (note: this action step will be postponed until the engineering TMCs and the C-ID descriptors for engineering lab courses have been established)

Goal 1 is also supported by the action steps for Goals 2, 3, and 4.

To increase awareness of and access to the engineering program for students at or below Math 130 (Goal 2)

- Faculty will continue involvement with Counseling Services.
- Engineering club activities will be more broadly advertised.
- The program will support CSM's MESA proposal and, if a MESA grant is received, take an active role in MESA activities.
- ENGR 100 may be modified or divided into two parts to allow students to take an engineering class before completing Math 130. The most recent curriculum discussions at the Engineering Liaison Council do not include Math 130 as a prerequisite for the Introduction to Engineering C-ID descriptor.

To increase opportunities for student involvement outside the classroom (Goal 3)

- Faculty will place a higher priority on the Engineering Club and its activities.
- Faculty will allocate the time needed to coordinate activities such as the engineering transfer panel and engineering alumni panel.
- Peer tutoring for engineering classes, either in the Learning Center or in 19-040, will be investigated.
- The program will support CSM's MESA proposal and, if a MESA grant is received, take an active role in MESA activities.

To improve articulation of engineering courses (Goal 4)

- Faculty will continue to attend semi-annual statewide Engineering Liaison Council meetings.
- Faculty will continue to participate in the TMC/C-ID review process for engineering and in the California Alliance for Long-term Strengthening of Transfer Engineering Programs through Cañada College.
- Faculty will work with CSM's articulation officer to extend articulation of engineering courses.

- c. Briefly explain, specifically, how the program’s goals and their actions steps relate to CSM’s *Educational Master Plan, 2008 (EMP); Data Updates to EMP, 2011-12; College Index, 2008/9-2011/12; Institutional Priorities, 2008-2011; and 5 & 5 College Strategies*.

The program goals and associated action steps focus on improving the quality of instruction and increasing the transfer pathway for students interested in engineering. This supports Institutional Priorities 1 (Student Success), 2 (Academic Excellence), and 3 (Relevant High Quality Programs and Services).

- d. Identify and explain the program’s outcomes, the measurable “mileposts” which will allow you to determine when the goals are reached.

Outcome 1: increased enrollment, especially in advanced classes

Outcome 2: increased articulation with UC and CSU engineering programs

Outcome 3: As C-ID descriptors and an engineering TMC become available, modification of the curriculum as needed to conform with C-ID descriptors and develop an engineering AS-T degree.

Outcome 4: Increased student participation in engineering activities outside the classroom.

## VII. SUMMARY OF RESOURCES NEEDED TO REACH PROGRAM ACTION STEPS

- a. In the matrices below, itemize the resources needed to reach program action steps and describe the expected outcomes for program improvement.\* Specifically, describe the potential outcomes of receiving these resources and the programmatic impact if the requested resources cannot be granted.

\* *Note:* Whenever possible, requests should stem from assessment of SLOs and the resulting program changes or plans. Ideally, SLOs are assessed, the assessments lead to planning, and the resources requested link directly to those plans.

Full-Time Faculty Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, ...
None.	Input text here.	Input text here.

Classified Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable,...
None.	Input text here.	Input text here.

- b. For instructional resources including equipment and materials, please list the exact items you want to acquire and the total costs, including tax, shipping, and handling. Include items used for instruction (such as computers, furniture for labs and centers) and all materials designed for use by students and instructors as a learning resource (such as lab equipment, books, CDs, technology-based materials, educational software, tests, non-printed materials). Add rows to the tables as necessary. If you have questions as to the specificity required, please consult with your division dean. Please list by priority.

Resources Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
<b>Item:</b> MATLAB license annual renewal <b>Number:</b> 50 seat license <b>Vendor:</b> Mathworks <b>Unit price:</b> N/A <b>Total Cost:</b> \$300 <b>Status*:</b> Maintenance	Allows continued offering of ENGR 100 and ENGR 215 in forms suitable for articulation.	Allows use of current software in ENGR 100 and ENGR 215; facilitates transfer articulation.
<b>Item:</b> MATLAB Symbolic Math toolbox <b>Number:</b> 50 seat license <b>Vendor:</b> Mathworks <b>Unit price:</b> N/A <b>Total Cost:</b> \$450 (renewal \$150/ year) <b>Status*:</b> Upgrade	Allows coverage of symbolic processing in ENGR 215. Provides an additional resource for math classes.	Facilitates transfer through continued and extended articulation of ENGR 215 at UC and CSU campuses.
<b>Item:</b> Contribution to renewal of licenses for Solidworks and AutoCAD <b>Number:</b> 50 seat license <b>Vendor:</b> N/A <b>Unit price:</b> N/A <b>Total Cost:</b> \$500 <b>Status*:</b> Maintenance/Upgrade	With additional funds provided by Drafting, allows offering of ENGR 210 in a form suitable for transfer.	Allows use of current software in ENGR 210; facilitates transfer articulation.
<b>Item:</b> Tension and Impact Specimens <b>Number:</b> 20 <b>Vendor:</b> Laboratory Devices <b>Unit price:</b> varies with specimen <b>Total Cost:</b> \$200 <b>Status*:</b> ongoing supply need	Allows purchase of supplies for ENGR 270 physical properties and heat treatment labs	Allows offering of labs needed for ENGR270 articulation.
<b>Item:</b> Mounting and polishing supplies (specimen mounts, grinding/polishing paper, polishing pads and solution) <b>Number:</b> various <b>Vendor:</b> Buehler <b>Unit price:</b> varies with item <b>Total Cost:</b> \$250 <b>Status*:</b> ongoing supply need	Allows purchase of supplies for ENGR 270 physical properties and heat treatment labs	Allows offering of labs needed for ENGR270 articulation.
<b>Item:</b> DC output displacement sensor <b>Number:</b> Omega LD 400-1 or equiv. with DP 25B-E or equiv.t meter <b>Vendor:</b> Omega <b>Unit price:</b> \$700 <b>Total Cost:</b> \$700 <b>Status*:</b> new	Modernizes measurement of displacement for tension, compression, and bending tests in ENGR 270.	Updates measurement technique used in one third of ENGR 270 labs sessions.
<b>Item:</b> HP RF voltmeter, used <b>Number:</b> 400 FL or equivalent <b>Vendor:</b> eBay <b>Unit price:</b> \$200-\$500 <b>Total Cost:</b> \$400-\$1000 <b>Status*:</b> Upgrade	Facilitates measurement of amplitude and phase lag in ENGR 260	Enhances 2 labs in ENGR 260
<b>Note:</b> Major equipment requests for the ENGR 270 lab are being postponed pending the anticipated development of a C-ID descriptor for the course.		

### VIII. Course Outlines

- a. By course number (e.g. CHEM 210), please list all department or program courses included in the most recent college catalog, the date of the current Course Outline for each course, and the due date of each course's next update.

Course Number	Last Update Date	Six-year Update Due Date
ENGR 100	February, 2007	November 2012 (for 2013-14 catalog)
ENGR 210	December, 2007	November 2013 (for 2014-15 catalog)
ENGR 215	January, 2012	November 2017 (for 2018-19 catalog)
ENGR 230	January, 2007	November 2012 (for 2013-14 catalog)
ENGR 240	May, 2008	November 2013 or bank
ENGR 260	February, 2007	November 2012 (for 2013-14 catalog)
ENGR 270	February, 2007	November 2012 (for 2013-14 catalog)

### IX. Advisory and Consultation Team (ACT)

- a. Please list non-program faculty who have participated on the program's Advisory and Consultation Team. Their charge is to review the *Program Review and Planning* report before its submission and to provide a brief written report with comments, commendations, and suggestions to the Program Review team. Provided that they come from outside the program's department, ACT members may be solicited from faculty at CSM, our two sister colleges, other community colleges, colleges or universities, and professionals in relevant fields. The ACT report should be attached to this document upon submission.

List ACT names here.

Due to the delay by the FT engineering faculty member in completing this document, ACT review has not yet occurred.

- b. Briefly describe the program's response to and intended incorporation of the ACT report recommendations.

## X. PROGRAM REVIEW PARTICIPANTS AND SIGNATURES

Date of Program Review evaluation:

Please list the department's *Program Review and Planning* report team:

Primary program contact person: Laura Demsetz  
Phone and email address: 650 574-6617 demsetz@smccd.edu  
Full-time faculty: Laura Demsetz  
Part-time faculty:  
Administrators  
Classified staff:  
Students:

_____ <i>Primary Program Contact Person's Signature</i>	_____ <i>Date</i>
_____ <i>Full-time Faculty's Signature</i>	_____ <i>Date</i>
_____ <i>Part-time Faculty's Signature</i>	_____ <i>Date</i>
_____ <i>Classified Staff Person's Signature</i>	_____ <i>Date</i>
_____ <i>Student's Signature</i>	_____ <i>Date</i>
_____ <i>Dean's Signature</i>	_____ <i>Date</i>

