



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

The purpose of this document is to collect information to be used by the college planning bodies IPC (Instruction Planning Council), APC (Administrative Planning Council), SSPC (Student Services Planning Council), Budget Planning Committee, and CPC (College Planning Council) and may be used for Program Improvement and Viability (PIV). Through this process, faculty have the opportunity to review the mission and vision of their department/program. Then, using multiple measures and inquiry, faculty will reflect on and evaluate their work for the purposes of improving student learning and program effectiveness. This reflection will identify steps and resources necessary to work towards the program vision including personnel, professional development, facilities, and equipment. *Faculty should use their judgment in selecting the appropriate level of detail when completing this document.*

The deadline for submission of the Annual Program Plan to the IPC is March 31. Complete this document in consultation with your Dean who will then submit a copy to IPC. Members of the IPC review the document and return their comments to the author for use in the next annual program plan.

Cañada College

Mission Statement

It is the mission of Cañada College to ensure that students from diverse backgrounds have the opportunity to achieve their educational goals by providing quality instruction in general, transfer, career, and basic skills education, and activities that foster students' personal development and academic success. Cañada College places a high priority on supportive faculty/staff/student teaching and learning relationships, responsive support services, and a co-curricular environment that contributes to personal growth and success for students. The College is committed to the students and the community to fulfill this mission.

Vision

Cañada College ensures student success through personalized, flexible, and innovative instruction. The College infuses essential skills and competencies throughout the curriculum and assesses student learning and institutional effectiveness to make continuous improvement. Cañada responds to the changing needs of the people it serves by being involved in and responsive to the community, developing new programs and partnerships and incorporating new technologies and methodologies into its programs and services.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Document Map:

- 0) Key Findings
- 1) Planning group
- 2) Authors
- 3) Program
- 4) Responses to previous Annual Program Plan & Review (APP&R)
- 5) Curricular Offerings
- 6) Program Level Data
- 7) Action Plan
- 8) Resource Identification



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Note: To complete this form, **SAVE** it on your computer, then send to your Division Dean as an **ATTACHMENT to an e-mail message.**

Department/Program Title: Science and Technology/Mathematics **Date submitted:** 4/5/2014

0. Key Findings: Enrollment continues to remain strong in the department. There are increasing numbers of student looking for higher level math classes and decreasing number of students looking for the “slow path” through algebra. Math Jam remains strong and continues to grow – partially funded by the college and partially by grant funding. The department continues to look for ways to improve student success and retention by experimentation with accelerated courses and pathways. There is need to hire 1-2 more full-time faculty in the department.

1. Planning Group (include PT& FT faculty, staff, stakeholders):

Faculty: Michael Hoffman, Denis Hum, Rich Follansbee, Ray Lapuz, Po Tong, Evan Innerst
Dean: Janet Stringer

2. Writing Team and Contact Person:

Faculty: Michael Hoffman, Denis Hum, Rich Follansbee, Ray Lapuz, Po Tong, Evan Innerst
Dean: Janet Stringer
Contact person: Michael Hoffman

3. Program Information

A. Program Personnel

Identify all personnel (faculty, classified, volunteers, and student workers) in the program:

Full-time Faculty:

Rich Follansbee
Michael Hoffman
Denise Hum
Evan Innerst
Ray Lapuz
Po Tong

Adjunct Faculty:

Teresa Zemla
Radu Toma
Judy Choy
Vera Klimkovsky
Rama Akkaraju
Tai Nguyen



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Hongyan Meng
Adam Fahey
Alpona Banerjee
Elena Ivanova
Kazumi Tsuchiyose
David Monarres
Yvette Butterworth
Bob Hanhan
Viet Nguyen

Staff:
Frank Austin

Student Workers
Too numerous to list

B. Program mission and vision

Include the purpose of the program, the ideals the program strives to attain, and whom the program serves. The program mission and vision must align with the college's mission and goals. (200 word limit)

The mission of the Cañada Mathematics department is to provide a foundation for a liberal arts education and for the study of the sciences. This is accomplished by providing students with a broad range of courses designed to develop skills in computation and quantitative reasoning, to meet the transfer requirements for colleges and universities, and to meet the needs of occupational training programs.

C. Expected Program Student Learning Outcomes



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Tool: **TracDAT folders in the SLOAC sharepoint.** Click on the link below to access your folder and log in with your complete smccd e-mail account, ex:smithj@smccd.edu and password <http://sharepoint.smccd.edu/SiteDirectory/CANSLOAC>

List expected Program Student Learning Outcomes (PSLOs) (minimum of 3) and assessment tools for each.

Guideline: List knowledge, skills, abilities, or attitudes upon completion of program or significant discipline work and list assessment tools. Can be copied from Tracdat.

1. Students will demonstrate the ability to use symbolic, graphical, numerical, and written representations of mathematical ideas.
2. Students will use mathematical reasoning to solve problems and a generalized problem solving process to solve real-world problems.

We have come up with a plan to assess the PLO's in several key classes (math 120, math 252, math 200, and math 275). Math 120 represents the last remedial math class for transfer students and is the graduation requirement for the associates degree. Math 200 is the most popular course take by transfer students. Math 252 is highest level course taken by nearly all STEM majors. Math 275 is the highest level math class we offer. We implemented this plan in Spring 2013.

Our assessment plan for each of these courses is as follows:

- Common, representative problems will be assigned in each course.
- Each instructor selects examples of student work representing excellent work, satisfactory work, and unsatisfactory work.
- Instructors score representative assignments, assigning 3, 2, or 1 for each PLO.

Student work is then collected for review by the department



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

4. Response to Previous Annual Program Plan & Review

Tool: <http://sharepoint.smccd.edu/SiteDirectory/canio/ipc>

(log in with your complete smccd e-mail account, ex: smithj@smccd.edu and password)

List any recommendations for the program and your responses to these recommendations based on previous Annual Program Plan and/or CTE Professional Accreditation report.

Guideline: Original documents can be linked or attached, as needed.

No recommendations were given

5. Curricular Offerings (*current state of curriculum and SLOAC*)

All curriculum and SLOAC updates must be completed when planning documents are due.

SLOAC = Student Learning Outcomes Assessment Cycle

Tools: **TracDAT folders in SLOAC** sharepoint <http://sharepoint.smccd.edu/SiteDirectory/CANSLOAC>

Curriculum Committee <http://sharepoint.smccd.edu/SiteDirectory/cancurriculum/>

A. Attach the following TracDat and Curriculum data in the appendix:

- List courses, SLOs, assessment plans, and results and action plans (attach report from [TracDAT folders in SLOAC sharepoint](#)).
- List courses with COR's over 6 years old (attach documents from [Curriculum Committee](#))

None – all CORs are within 6 years old. Math 251 was updated this semester.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

B. Identify Patterns of Curriculum Offerings

Guidelines: What is the planning group's 2-year curriculum cycle of course offerings by certificates and degrees? What is the ideal curriculum cycle? Discuss any issues.

	Date COR	SLOAC	Semester offered
MATH 811	9/11	yes	every semester, eve, summer
MATH 818	10/09	no	every semester, on-line only
MATH 110	9/11	yes	every semester, summer, on-line
MATH 111	9/11	yes	every semester, summer, on-line only
MATH 112	9/11	yes	every semester, summer, on-line only
MATH 115	2/11	no	rarely
MATH 120	9/11	yes	every semester, summer, on-line
MATH 122	9/11	yes	every semester, summer, on-line only
MATH 123	9/11	yes	every semester, summer, on-line only
MATH 125	3/11	yes	every semester
MATH 130	10/07	yes	every semester
MATH 140	3/10	yes	every semester
MATH 190	9/12	No	every semester
MATH 200	9/11	yes	every semester, summer, eve, on-line, honors
MATH 222	12/09	yes	every semester
MATH 241	12/11	yes	every semester
MATH 242	12/11	yes	every semester
MATH 251	2/10	yes	every semester
MATH 252	9/11	yes	every semester
MATH 253	12/09	yes	every semester, honors
MATH 268	9/11	no	never
MATH 270	10/11	yes	fall only, both semesters starting 14-15
MATH 275	10/11	yes	fall only, both semesters starting 14-15

All of our courses are offered every semester beginning this coming academic year.

6. Program Level Data

A. Data Packets and Analysis from the Office of Planning, Research & Student Success and any other relevant data.

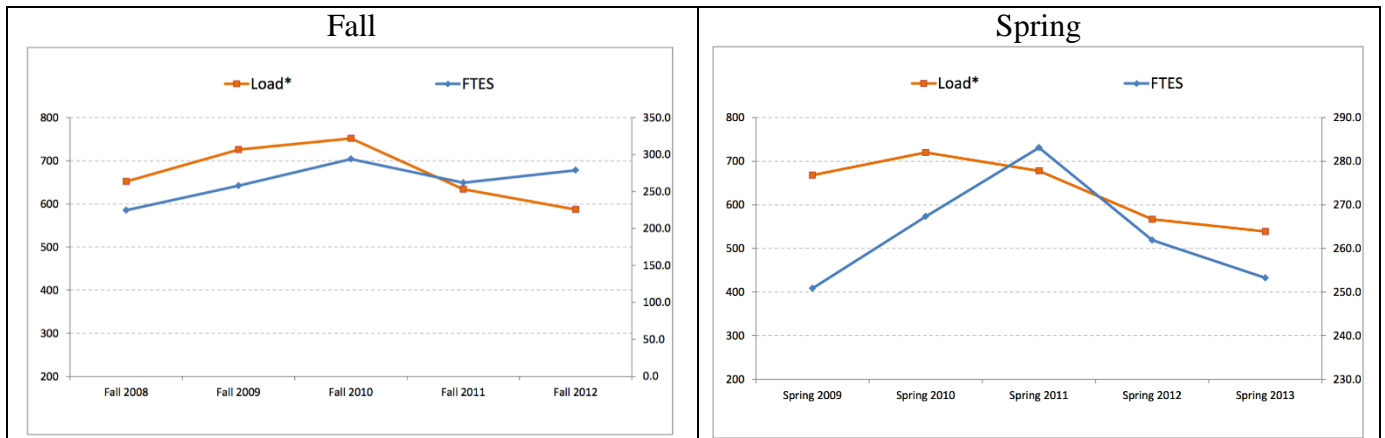


ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Tool: http://www.canadacollege.edu/inside/research/programreview/info_packet/info_packet.html

Guidelines: The data is prepared by the Office of Planning, Research & Student Success and is to be attached to this document. Include the following:

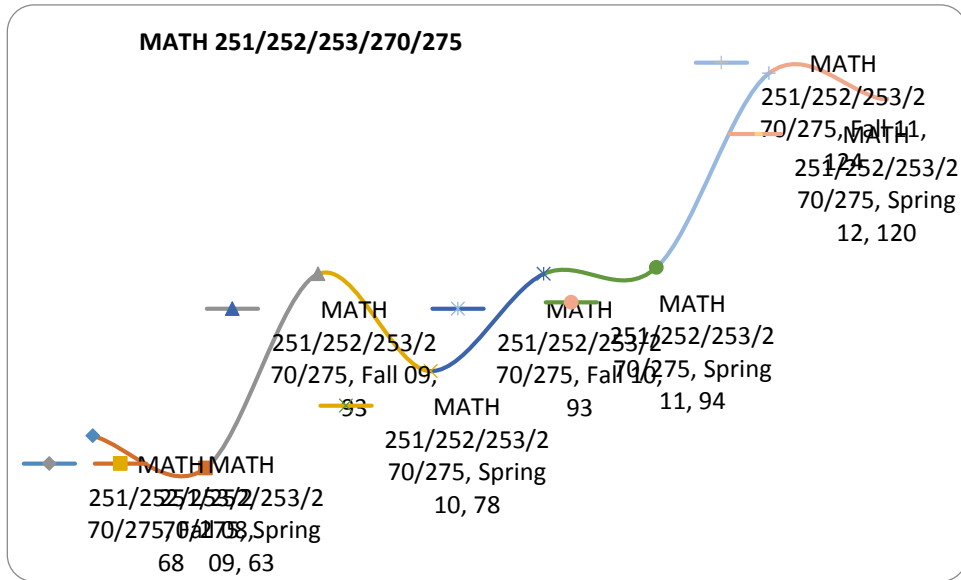
- Describe trends in the measured parameters.
- Reflect and analyze causes of trends.



Load and FTES have been in a downward trend for the last few years, reversing an upward trend that had occurred for several years prior to 2010. This is mainly due to removal of TBA hours from all of the algebra and statistics classes. The state continued to add reporting requirements and reduced flexibility for the these hours for the evening and on-line classes forcing us to remove these hours from all sections. We also think this is reflective of the general decline in enrollment college-wide. We expect these Load and FTES numbers to stabilize as the effects of reducing TBA hours was sudden and most likely permanent. Getting students into the math lab is vital to their success and the removal of TBA hours has affected the algebra classes in particular. With that in mind, our future plans include removing TBA hours from all of our classes and replacing them with some time of Math Lab class that students would have to register for concurrent with their math class.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

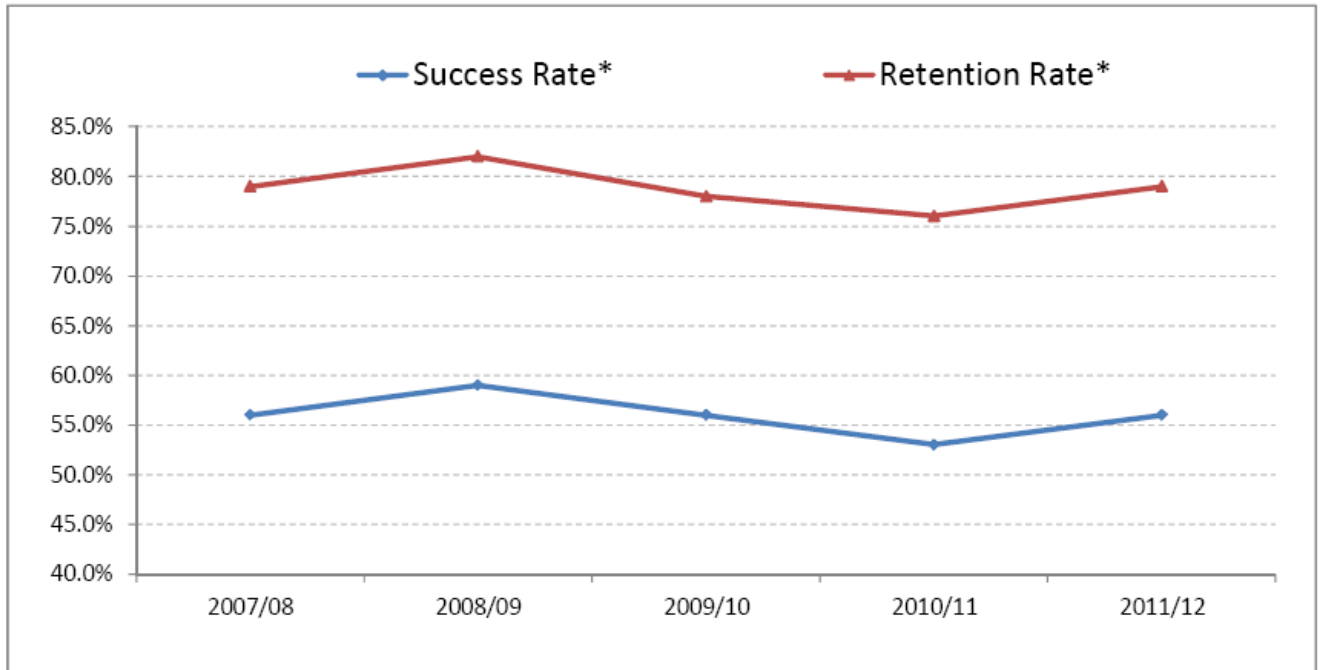


We have also seen a significant increase in the enrollment in our calculus classes and have increased the number of section of calculus. This Fall 2013 three sections of MATH 251 (one was hybrid), two sections of MATH 252 were offered. In Spring 2014 two sections of math 253 were offered

We have also seen a decrease in the number of students enrolling in MATH 111/112/122/123. This spring there was only one section of each of these courses and they were only offered online.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011



Up until last year there had been a decline in retention and success rates. We think there are several reasons for these trends. First the new graduation requirement of intermediate algebra for the associates degree has put more students in higher level classes than they were before. In addition, enrollment in math classes has gone way up often taking our classes over the posted enrollment limit. This increase in load may also lead to a decrease in success and retention due to instructor resources being spread thin. Economic factors may also be playing a role. As students are forced to change jobs they may not be able to continue in their classes. Although our success rates are more than 10% lower than the college average, they are similar to the state averages in math.

There is some research that show that if pathways to a degree are shortened, then retention and success increase. To that end, the math department has created several programs to accelerate students. Currently we have the accelerated algebra sequence, Path to Statistics, Fast Track to Calculus, and Math Jam which are all designed to help students move through their math requirements more quickly.

We have offered the accelerated algebra sequence for about 3 years, but few students have been able to complete it. The way it is set up allows students to at least get credit for math 110 even if they don't finish math 120, so they don't fall behind in their math sequence. Evan Innerst has been offering it as part of his online math 120 class so it does not require additional instructors.

The Path to Statistics class has been offered for the last two semesters, taught by Ray Lapuz and Denise Hum. This class takes students who place into math 110 and gets them ready for statistics in one semester. Student reviews are positive and we will be taking a look at the data over the next couple of semesters. We are also attempting to recruit other faculty to teach this class. The



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

relaxing of the Intermediate Algebra prerequisite means we may be able to offer more sections in the future.

Also, Denise Hum has been teaching a Fast Track to Calculus class for the past year which combines together Trigonometry and Precalculus for our STEM majors. Like the Path to Statistics class, student reviews have been positive and many want to sign up for the class in the future.

We have also made some changes to math 811. Michael Hoffman has rewritten the course outline to include 2 hours of lecture and 3 hours of lab. This replaced the 3 hours of lecture and 2 TBA hours, which the students usually failed to complete.

Math Jam has continued to grow and has become extremely popular and successful. By participating in MathJam students can place in higher levels of math or simply prepare themselves to be successful in the classes they are taking.

B. Analyze evidence of Program performance. Explain how other information may impact Program (examples are business and employment needs, new technology, new transfer requirements)

Tool: **TracDAT folders in SLOAC** sharepoint <http://sharepoint.smccd.edu/SiteDirectory/CANSLOAC>

Guidelines:

- Explain how the assessment plan for Program Student Learning Outcomes (listed on #3c) measures quality and success of each Program.
- Summarize assessment results of Program Student Learning Outcomes.
- Describe and summarize other data that reveals Program performance.
- Explain how changes in community needs, technology, and transfer requirements could affect the Program.

All of our classes have SLO's and most have been assessed over the past 3 semesters. Most of our SLO's currently measure the abilities of students to solve the various types of math problems they encounter in the class. We have been discussing the idea of creating more SLO's revolving around students ability engage in problem solving, using technology, and attitudes towards math. In the algebra sequence, for example, the SLO's do not seem to fit the type of problems found in the textbook that was adopted several years ago, after the SLOs were written. The department is planning to conduct an ongoing inquiry into the types of teaching , learning and assessment that best meet the needs of the students through our pre-algebra and algebra sequence.

C. Other Considerations



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

7. Action Plan

Include details of planning as a result of reflection, analysis and interpretation of data.

Guidelines:

- Describe data and assessment results for Program Student Learning Outcomes. Analyze and reflect on assessment results for Program Student Learning Outcomes and other measures of Program performance.
- Analyze and reflect on other evidence described in previous sections. Identify the next steps, including any planned changes to curriculum or pedagogy.
- Identify questions that will serve as a focus of inquiry for next year.
 - > Determine the assessments; set the timeline for tabulating the data and analyzing results.
 - > Describe what you expect to learn from the assessment efforts.

In 2012 we wrote:

- Development and piloting of a Stats Prep class in spring 2013. Denise Hum and Ray Lapuz have committed to the development of a Stats Prep course through 3CSN. There are 2 major models for the acceleration through transfer-level statistics classes. After reviewing the options, we (in collaboration with faculty at Skyline College) developed a 1 semester Stats Prep class. Both CSU and UC systems have agreed to accept Statistics for transfer if preceded by a prep course and not Intermediate Algebra. This cleared the last hurdle to the development of this program.
 - This class was offered the last two semesters with Ray Lapuz and Denise Hum as the instructors. We are hoping to expand the offerings of this path.
- Path to calculus. With the development of the path to statistics, there will need to be considerable discussion about the path to calculus and ways to accelerate this pathway. A semester length combined MATH 120 and 130 was tried this semester – funded by the Veteran’s Bridge to Engineering grant. There has also been discussion by Michael Hoffman and Denise Hum about ways to streamline MATH 130 and MATH 222. These discussion will continue.
 - This class was offered the last two semesters with Denise Hum as the instructor

New for this year

- We’re planning to do a focus group (or two) with students who have completed key parts of our math sequence. The overall inquiry question is as follows:

“What are the attributes, strategies, key supports and instructional experiences that help students succeed at different stages of their math sequence?”

- We have our first results of PLO assessments and are in discussion about what they tell us and how we might adjust them to get more useful data.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

8. Resource Identification

A. Faculty and Staff hiring requests

Guidelines:

- Explain clearly and with supporting data showing how hiring requests will serve Department/Division/College needs.
- Include information from the most recent Comprehensive Program Review or Annual Program Plan, whichever was last year's document.

In our last program review we asked for 2 additional faculty positions. One position was granted this past fall and we hired PoTong last spring. As our offerings continue to grow we will need 1- 2 additional positions in the future.

B. Professional Development needs

Guidelines:

- List faculty and staff professional development activities.
- Describe faculty and staff professional development plans for next year.
- Explain how professional development activities improved student learning outcomes.

The Math department members routinely attend professional development conferences. There is need to develop the skills of more faculty in distance education, particularly in structuring hybrid classes. Ray Lapuz is currently working on certification for distance education through @one. Michael Hoffman attended 2 math conferences this year and took several students with him.

Both Ray Lapuz and Denise Hum are participating in the 3CSN Community of Practice in Acceleration. This state-wide collaboration is meant to assist in the development of accelerated courses, with the goal of increasing student completion rates. Denise Hum participates in CalPass.

As part of the ongoing ESL/Math collaboration, Michael Hoffman and ESL Instructor Jeanne Gross have participated in a "Reading Apprenticeship" community of practice which has included taking an online course, attending a two-day conference, and presenting their work to colleagues at the '3CSN Links 5' conference. Michael Hoffman is currently attending the "Leading from the Middle" workshops.

C. Classroom & Instructional Equipment requests

Guidelines:

- List classroom & instructional equipment requested, including item description, suggested vendor, number of items, and total cost.
- Explain how it will serve Department/Program/Division/College needs.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

- List the requests (item description, suggested vendor, number of items, and total cost).
- List special facilities and equipment that you currently use and require.

None at this time.

D. Office of Planning, Research & Student Success requests

Guidelines:

- List data requests for the Office of Planning, Research & Student Success.
- Explain how the requests will serve the Department/Program/Division/College needs.

We need assistance in monitoring the effects of the changes in MATH 811 and the tracking of students who have completed the accelerated algebra sequence. This data will be used to measure the impact of our various initiatives and will be taken into consideration when taking further action.

E. Facilities requests

Guidelines:

- List facilities requests.
- Explain how the requests will serve the Department/Program/Division/College needs.

One request we continue to make is for a testing center for all on-line and hybrid students. This is envisioned as a quiet computer lab, with proctor, to support computerized testing for 40-50 students at a time and would benefit all departments



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Mathematics Department – 2014 Hiring Justification

CRITERIA FOR USE IN DEVELOPING PROPOSALS FOR FACULTY HIRES

A. Department/Discipline/Program Criteria

1. Identify current Comprehensive Program Review (in cycle) and current Annual Program Plan documents with position need and justification in the annual plan.

Comprehensive program review was completed in 2010 and presented to the curriculum committee on April 27, 2010. The program review has been posted to the IPC sharepoint. The most recent annual plan, filed in March 2014, identified a need for 1 – 2 more full time math faculty.

2. Identify specialized knowledge (area expertise) or training needed for the discipline/program.

Specialized knowledge beyond the standard FSA is not needed.

3. Identify extraordinary program development and/or needs (for example: are there laboratory oversight, industry connections, student mentoring, etc.).

- We have been expanding the use of calculators and computers in the curriculum and this work needs to continue.
- We offer classes in a variety of formats, including on-line classes, learning communities, and honors sections. In addition we have created both StatPath and CalcPath classes designed to accelerate the paths to Statistics and Calculus. We have begun teaching both of these this spring. This work needs to continue.
- We have successfully developed and implemented the MathJam program and this needs continual monitoring of outcomes and program needs. The MathJam program continues to grow.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

- Many of our basic skills classes and some of our transfer classes use an on-line homework system. The use of this system needs to be carefully evaluated and (if warranted) expanded.
- Basic skills classes have recently adopted textbooks that are more application based and faculty development is needed to improve use of these books.
- In recent years our focus has been on improving our success in the basic skills courses in order to get more students to the transfer level classes. The number of students whose goal was to transfer has gone from 1034 in 2008/09 to 1772 in 2011/12, an increase of 71% !

Department	Metric	Academic Year				
		2007/08	2008/09	2009/10	2010/11	2011/12
MATH	Transfer (w/ or w/o Degree)	1034	1190	1371	1578	1772
	Career Dev (Degree, Certificate, License)	211	263	342	391	431
	Educational Development	261	200	341	357	313
	4 Yr College Student attending Cañada	350	342	337	271	184
	Undecided on Goal	141	192	219	275	270
	% Transfer (w/ or w/o Degree)	51%	53%	52%	55%	60%
	% Career Dev (Degree, Certificate, License)	10%	12%	13%	14%	14%
	% Educational Development	13%	9%	13%	12%	11%
	% 4 Yr College Student attending Cañada	17%	15%	13%	9%	6%
	% Undecided on Goal	7%	9%	8%	10%	9%

Data Definitions: All counts & percentages reflect the student's primary educational goal as indicated on their first application.

Note 1: Percentages do not sum to 100% because the Transfer category also includes some degree seeking students.

Although their goal is to transfer many of the students need to start in remedial courses. To meet their needs we plan to

- Continue to offer and improve the StatPath and CalcPath accelerated pathways.
- Continue to offer and improve accelerated algebra.
- Continue the overhaul of Math 811. So far we have
 - implemented mastery level testing
 - raised the grading scale (80% for C, passing)
 - increased contact hours (2 lecture and 3 lab hours per week).

4. Describe PT/FT faculty needs for the discipline/program.

We have 6 full time math instructors: Rich Follansbee, Michael Hoffman, Denise Hum, Evan Innerst, Po Tong, and Ray Lapuz.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Adjunct instructors include Adam Fahey, Teresa Zemla, Hongyan Meng, Tai Nguyen, Radu Toma, Judy Choy, Vera Klimkovsky, Rama Akkaraju, Alpona Banerjee, Elena Ivanova, Kazumi Tsuchiyose, David Monares, and Danielle Ta.

In the learning center we have Catherine Lipe and Frank Austin.

This spring, only 36% of the units taught in the math department and 31% of the classes are taught by full time faculty. Several areas of importance, including intermediate algebra, statistics, and the second semester of calculus are taught almost entirely by adjunct faculty. Although our adjunct faculty are some of the best, it is important to have a fulltime faculty presence in these areas.

5. Describe any future economic, community or governmental initiatives/mandates this proposal is addressing?

Three years ago the state changed the graduation requirement in math for high school students to intermediate algebra. This necessitated a change in the graduation requirement for math for an associate's degree. The Math Department has set as a goal to improve retention and success rates and this is even more critical as the math requirement is higher.

6. Describe any budgetary implications of the proposal.

The new positions would be funded from Fund 1.

B. College Mission and Goals Criteria

1. Explain how the request supports the goals of the college strategic plan.

The mission of the Cañada Mathematics department is to provide a foundation for a liberal arts education and for the study of the sciences. This is accomplished by providing students with a broad range of courses designed to develop basic skills in computation and quantitative reasoning, to meet the transfer requirements for colleges and universities, and to meet the needs of occupational training programs.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011

Every student has to take math either for basic skills, or transfer, or vocational certificates. Math supports the mission of the college by supporting virtually every academic program on campus.

2. What unmet needs will this position address (student, district, community)?

Since our 2002 Program Review we have had the goal to add one or more math instructors. This goal has not been met and our continued goal is to hire at least two full time math instructors. We have hired Denise Hum, Michael Hoffman, and Cathy Lipe (MESA only, not instructional faculty), but lost Steve Gavazza, Jack Preston, Rich Anderson, and Judy Liteky to retirement. And this year we lost Chuck Iverson to retirement. He primarily taught computer science, but was the key instructor for Linear Algebra and Differential Equations. Both of these classes are very important for engineering and science majors.

3. How will this position enhance retention or produce college wide growth?

Every student has to take math either for basic skills, or transfer, or vocational certificates. Math supports the mission of the college by supporting virtually every academic program on campus. The Math Department has set as a goal to improve retention and success rates and this is even more critical as the math requirement is higher. Development of new retention activities will require additional faculty. The five faculty we currently have are stretched thin.

4. Describe how the position supports a pathway to student educational goal completion (certificate and/or degree) or GE transfer certification.

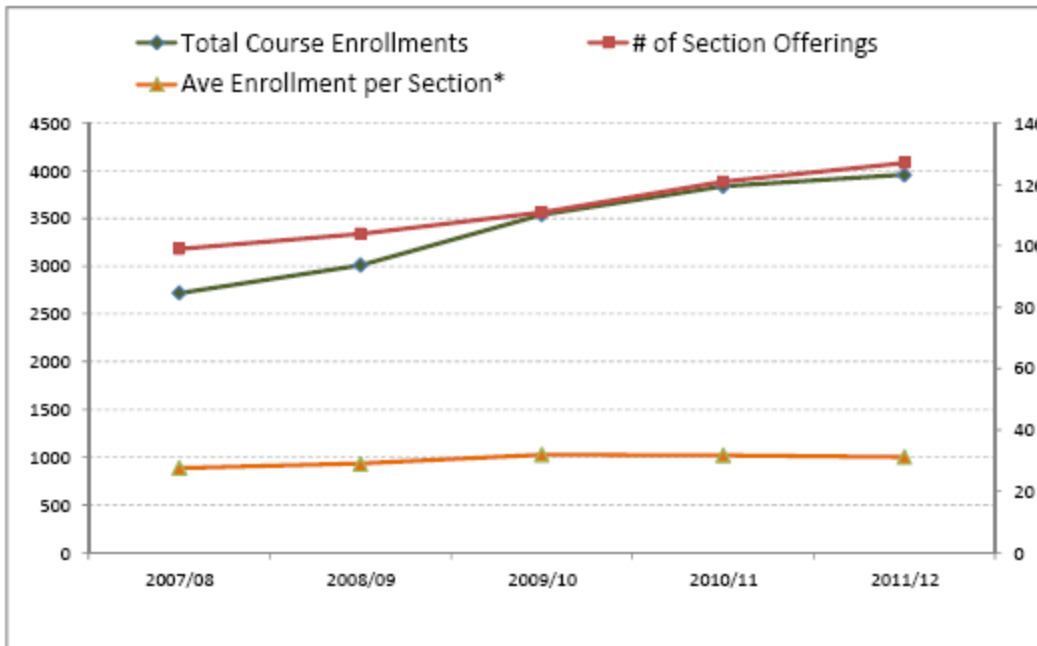
Every student has to take math either for basic skills, or transfer, or vocational certificates. Math supports the mission of the college by supporting virtually every academic program on campus.

C. Historical data criteria supporting request.

1. Discuss Department/Discipline/Program enrollment and student service trends the proposal addresses.



ANNUAL PROGRAM PLAN & REVIEW (INSTRUCTIONAL)
ASGC ADOPTED SPRING 2011



The department continues to grow in the number of sections offered and the total number of students served. These increases have been filled using adjunct faculty.

Statistics from the U.S. Department of Education show that success in algebra is the single best predictor of success in college--not just for engineering and science majors, but for students in all fields.