

**PROGRAM REVIEW
BASIC SKILLS MATH COURSES
(MATH 10A, 10B, 12, 23, 25)**

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I. Overview

A. Description of Program

The Basic Skills Mathematics Program at El Camino College consists of the following courses: Basic Arithmetic Skills, Part I (Math 10A), Basic Arithmetic Skills, Part II (Math 10B), Basic Arithmetic Skills, Parts I and II (Math 12), Pre-Algebra (Math 23), and Pre-Algebra Review (Math 25).

These classes are required for students who need to review the basic foundation of mathematics. Successful completion of these courses will prepare students to complete the prerequisites for college-level mathematics (for both the AA degree or for transferring). This is accomplished in two ways:

- Returning students are provided with the opportunity to refresh mathematical skills as well as fill in gaps from their previous education.
- Recent high school graduates are given the opportunity to fill in gaps in their knowledge and skill sets as needed and indicated by their placement scores.

The goals of the Basic Skills Mathematics Program are to provide a foundation for all students, regardless of academic preparation, to successfully complete the courses in the basic skills program and to adequately prepare students for the required math courses needed for their courses of study.

These goals are two fold. The first goal is that the courses in the program provide appropriate conceptual and computational preparation to enable students to advance to the necessary mathematics courses for their major. The second goal is that the courses in the program provide a valuable mathematical experience in which students gain an appreciation for and understanding of basic mathematics which can be used in their everyday life.

B. Status of Previous Recommendations

Below is a list of the recommendations from the previous program review completed on June 27, 1997. (It is worth noting that this previous review included a review of Math A (Elementary Algebra), Math B (Geometry), and Math 1 (Intermediate Algebra). Under each recommendation is the status of that recommendation.

Recommendation 1

All faculties in the Department should continue to explore ways to enhance the curriculum in order to provide a rich mathematical experience for students, while addressing the need to develop their conceptual, calculation, and problem-solving skills in accordance with the AMATYC standards for introductory (pre-calculus) mathematics.

Status of Recommendation 1

Math R had been taught as a self paced review of arithmetic. The committee believed that students would benefit from a lecture/activity based class similar to Math XPA which has become Math 23. In addition, it was observed that many students needed the entire semester to complete half of the material. They would then fail and have to start at the beginning the following semester. Thus, Math 10A and Math 10B were written to take the place of Math R. There were many registration issues with these 8 week courses (Math 10A/10B). In addition, it was impossible to require prerequisites. As of Fall 2007, a new course, Math 12 (a 16 week arithmetic course) is now being offered to address these issues.

A second way in which some faculty have addressed this recommendation is by participating in cohorts, teams of faculty working collectively to present a classroom environment that empowers the student to be more active in the learning process. Lecturing has been supplemented with a combination of guided lectures and group “learning activities” that present concepts using real word applications and data. These faculty members are in the process of creating a collection of activities as well as recommendations on their usage that can be distributed to all faculty in the future.

A third way in which faculty are addressing this recommendation is pairing with the Human Development department to offer linked classes. These paired classes are currently being offered in Spring 2008.

A fourth way in which faculty are addressing this recommendation is providing students in selected sections with a specific counselor who plays an integral part of the math class. The counselor visits began in Spring 2008.

Recommendation 2

The Department’s review of its traditional pre-algebra course, Mathematics PA, was instrumental in the creation of a new and more successful course – Mathematics XPA. We encourage the Department to consider alternative methods for teaching the next course in the developmental mathematics sequence – Mathematics A.

Status of Recommendation 2

The course Mathematics A (Elementary Algebra, now called Math 40) is not a course in this program. Thus, the status of this recommendation will not be covered in this review. It is worth noting however, that faculty cohorts are also being used in the Math 40 courses. In addition, the courses, Math 41A/B were created.

Recommendation 3

We recommend that there be mandatory placement testing of all students entering developmental mathematics courses.

Status of Recommendation 3

Mandatory placement testing is now in effect for students enrolling in basic skills math courses. In addition, efforts are made for faculty to complete forecasting reports which keeps students

from registering in the next level if they are not currently passing the course in which they are enrolled.

Recommendation 4

We recognize the increasing usefulness of academic technologies in the teaching of mathematics and recommend that the Department continue to work with the Academic Technology Committee to expand the technologies available on campus for that purpose.

Status of Recommendation 4

The effective use of a calculator is one of the requirements for some of the classes in this program. Some instructors have a class set of 10 calculators for use during class. There is also a calculator loan/rental program primarily set up for students enrolled in higher level math courses. We are currently in the process of expanding this program for all math students.

The classrooms in the math department are equipped with computers, internet access, and overhead display. The vast majority of faculty does use this technology when teaching in the classrooms allotted to the math department. Unfortunately, many basic skills math courses are taught in rooms in which faculty do not have access to this type of technology since these rooms are not allotted to the math department.

There are now several computer labs available throughout campus with software that provides tutorials and drills that includes the concepts of the basic skill courses. In addition, many textbook are now providing such software, and many faculty are including these software components as part of their classes. Some faculty are also working with the publishers to create a “shell” for all courses in which their textbook is used, to allow a student to use the software, even when a specific instructor is not including it.

Recommendation 5

We recommend that steps be taken to improve student access to mathematics tutoring. Additional tutoring hours are needed, as are more space for tutoring and more computers for interactive drills and computer-assisted testing.

Status of Recommendation 5

The “Partnership for Excellence” funding allowed for in class tutors in all the Basic Skills courses.

This grant also assisted in the expansion of the “Drop-In Math Study Center” located in MCS 106. Currently, the math study center provides drop in math tutoring for 54 hours each week. This includes morning, afternoon, evening, and weekend hours.

There is computerized math tutoring available in MCS 8 (computer lab in basement of MCS building).

While the above resources are available to students, currently, there is no formal method of measuring the student usage because there has been much turnover among tutors and the person in charge. In addition there is virtually no tutor training provided.

Recommendation 6

Faculty should continue to work closely with the Learning Resource Center in the selection of mathematics videos and interactive tutoring software.

Status of Recommendation 6

Currently, there is no “assigned” math faculty who coordinates with the Learning Resource Center.

One of the goals of the Basic Skills Initiative is to have a highly coordinated system for all basic skills courses and programs. Although, faculty have not yet responded to this recommendation, Basic Skills funding is likely to produce results that encompass this recommendation.

Many math textbook publishers are now providing various online and computer resources that include interactive tutoring, online quizzes, homework, and other assessment tools.

Recommendation 7

The Department should review the faculty-evaluation process with a view toward promoting excellence in the teaching of mathematics by both full-time and adjunct faculty.

Status of Recommendation 7

The evaluation process is determined by the El Camino College Federation of Teacher’s Union, and this process is outlined in the faculty contract. The department cannot change this process on its own.

Recommendation 8

Given the need for improved utilization of space in the Mathematics and Computer Science Building, the Mathematics and Physical Science Division should make a specific recommendation by December 1997 for more effective usage of MCS space.

Status of Recommendation 8

It is worth mentioning that in Fall 1997, the Physical Science Division relocated to another building on campus, and thus, no longer shares space in the Mathematics and Computer Science Building with the Mathematics Department.

In the Mathematics and Computer Science Building, the lobby and hallways are now furnished with tables and chairs to provide a study center environment for students. In the past year, many students have taken advantage of this set-up, by working individually as well as in groups while studying mathematics.

The dean has arranged schedules to allow for maximum utilization of each classroom.

Regardless of this, there are still not enough math classrooms to meet the demand of the primetime students who need to take math classes. This sometimes forces students to take classes at times that are not conducive to their learning.

As of Spring, 2008, plans are in progress to move the Mathematics Department to a new building to be shared with the Business Department.

Recommendation 9

The College Validation Committee recognized the program's need for more faculty time devoted to curriculum coordination and reform. We encourage program faculty to work with the Division dean in considering ways of satisfying those needs.

Status of Recommendation 9

All of the basic skills math courses whose outlines did not meet the State's Title V standards, have been updated and passed through the curriculum committee.

The Math Title V Grant is one such way to encourage this. The grant allows for release time or special assignments for both full-time and adjunct faculty. Especially for requests for Basic Skills courses, the dean works with the faculty by granting requests for 1- 2 preps, so that faculty can commit the time to this curriculum reform, without being weighted down with preparing for 3 and 4 different subjects.

Recommendation 10

The Budget Development Committee should continue to review its allocation criteria with the objective of allotting funds in a more equitable manner to instructional departments.

Status of Recommendation 10

While the Budget Development Committee no longer exist at El Camino College, the state has recently (2007) funded a "Basic Skills Initiative (BSI). These funds will provide for curriculum development and professional development for instructors who teach Basic Skills courses.

It has not yet been determined if this funding will continue.

II. Program Statistics

A. Demand: FTES by Course/Program

Instructions: Analyze the **FTES by Course/Program** using 1st census data and answer the following questions. At a minimum, your analysis must include a 3-year cycle comparing like semesters.

Course	Year 1 Fall 04	Year 2 Fall 05	Year 3 Fall 06
Math 10A	71	84	83
Math 10B	41	54	48
Math 23	136	137.9	144.3

- Given the data, can you recognize any trends in course demand in any of the Program's courses?

It appears that the numbers enrolling for Math 10A/B is fairly stable across time. The Math 23 appears to be having more demand over time.

- What are you doing to respond to trends?

Math 10A/10B are being phased out as the primary courses for the arithmetic curriculum. In their place a full semester course, Math 12 containing all the content of Math 10A/B is being phased in. This is in response to registration issues. Its effect on FTES will have to be investigated over the next program review period.

- Should a recommendation be written addressing the data? ___ Yes ___ X No
(If yes, list.)

B. Offerings: Fill Rate*

Instructions: Review and analyze the **fill rate data** (including the fill rate per course for both day and evening), provided by Institutional Research for this program for a three year cycle and answer the following questions:

Average fill rate of courses in program: How does this program compare across the three years being tracked?

	Year 1 Fall 04	Year 2 Fall 05	Year 3 Fall 06
Day classes	105.0%	100.5%	103.0%
Evening classes	91.8%	92.2%	95.4%

1. Given the data, is the program in a growth mode?

Yes
 No

Comment.

The growth mode appears to be in the evening classes. The day classes are already consistently operating at or above capacity.

2. What adjustments are indicated?

Given the high rate of fill in the day classes, we need more space to add more sections.

3. Should a recommendation be written that addresses the data? Yes No
 (If yes, list.)

* Percent of fill of each classes at census.

C. Scheduling: Student Satisfaction with Scheduling

Instructions: Complete the chart below. Indicate the time when sections of courses in the program are currently scheduled to start. Analyze the data provided by Institutional Research on student satisfaction with scheduling in the program and answer the questions.

The scale for satisfaction is 5 to 1 with 5 being the category *Very Satisfied* and 1 being *Very Unsatisfied*. The percentage in the report represents the sum of the percentages of those who responded on a Fall 07 survey with a 5 or 4 indicating satisfaction.

Course	During the early morning before 10 am	During the late am/early pm 10am – 1:55 pm	During the late afternoon 2 pm - 4:25 pm	During the evening 4:30 & later	During the weekend	During the summer	Via Telecourse	Via Online
Math 10A, 10B, 23 Combined	65.80	69.82	44.17	39.30	31.63	59.94	27.90	38.17

1. What (if anything) is indicated by the student satisfaction with scheduling?

It seems to indicate that students would like to have more weekend and electronic offerings.

2. Are there time periods of high student demand which are not being addressed?
 Yes No
 How could such demand be addressed?
 There are not so much time periods as modes that are under addressed. It seems that students would like online and telecourse offerings to increase.
3. Should a recommendation be written addressing this area? Yes No
 There seems to be a need to discern more closely what we could effectively offer in an electronic mode. Given this is a new modality of instruction for many students and faculty, it will take some trial and error in offering and monitoring of feedback and success rates to be able to competently meet this perceived need by the students. Several instructors are starting to offer hybrid courses 51% on campus, 49% online. None are yet in the basic skills courses. There is some trepidation on the part of the faculty about offering these courses to a population whose academic skills and discipline is traditionally weak. It is a way of creating flexibility for students who also often have very busy lives. If the department decides to use online courses for basic skills classes, the success rates and retention rates should be monitored closely in a pilot program to insure that student success and retention is at least as good as 100% on campus classes.

D. Retention and Success

1. Retention

Instructions: Review and analyze the data on **retention (course completion with a grade other than W)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels.

Course	Year 1 Fall 04	Year 2 Fall 05	Year 3 Fall 06
Math 10A	86.0%	84.6%	88.3%
Math 10B	85.8%	79.5%	87.7%
Math 23	74.6%	73.2%	71.5%

1. Given the data, what trends are observed?
 The retention rates appear to be stable over time.
2. Should a recommendation be written addressing the data? Yes No

2. Success Rate

Instructions: Review and analyze the data on **success rate (students who earned a grade of A,B,C, or Credit)** over a three-year cycle comparing day to evening classes, term to term

The Success rate is calculated as the number of students who earned a grade of A,B,C or Credit in a course divided by the FTES number at census.

Course	Year 1 Fall 04	Year 2 Fall 05	Year 3 Fall 06
Math 10A	60.5%	55.5%	60.4%
Math 10B	66.4%	61.6%	64.2%
Math 23	54.8%	52.2%	52.0%

1. What trends are observed?

There is stability in our success across the three years.

2. Should a recommendation be written addressing the data? Yes No

Though the data indicates stability in our success rate, we need to be looking at how to improve this rate since these courses are gateways for college students taking them. The department needs to continue looking at what affects student achievement in the pre-algebra level courses. Many of the issues that impede student success are non academic. Starting in Spring Semester 2008, some selected sections of these courses will be associated with specific sections of Human Development courses to try and improve the non mathematical skills of the students and increase academic success in these math courses.

There will also be sections of Math 12 linked with counselors so that the students have a counselor presence to use as a resource. In addition, one stated goal of the Basic Skills Initiative (BSI) is to assess all current programs offered BSI students in order to incorporate and implement strategies that have been shown to be effective for that population.

III. Curriculum

A. Course and Content

1. Courses Not Offered

Instructions: Indicate the total number of courses in the program and list all courses in the program which are in the catalog but have not been offered in the last three years. Refer to this list to answer the following questions:

There are five courses in the program and all have been offered within the past three years.

1. Given the data, are there courses that should be inactivated? Yes No
Comment.
2. If there are courses not offered in the last three years that you do not wish to inactivate, what reasons are there to keep them active?
N/A
3. Should a recommendation be written addressing the data? Yes No
(If yes, list.)

2. Course Revisions and Additions

Instructions: Utilize the Course Review Chart from the Curriculum Office to answer the following:

1. Are there course outlines that should be revised? Yes No

We are in the process of updating the course outline for Math 12 and Math 23 to reflect a change from four units to three units. We understand that a three unit college course traditionally represents three hours of work in the class room and six hours of work outside the classroom for a total of nine hours per week for the student for 18 weeks. As reflected in the outlines we are in the process of changing, we expect students to do some activities in addition to lecture in the classroom. Our Math 12 and 23 students will be in class 4 hours each week. We also expect our average student in Math 12 and Math 23 to work approximately 5 hours outside of class each week. This is a total of nine hours per week.

The student survey we did in which we asked students at the end of the semester how much time they spent studying outside of class showed us that 69% of the students spent between 0 and 5 hours studying per week and most of those students were also expecting to pass. This is a clear indication that the average student does not spend 8 hours a week studying, as should be the case for a 4 unit class.

In addition, many of our instructors used an online component in their classes. A feature of the online component is that the exact number of hours can be tracked. However, that number is probably a little high as it counts some of the time that the students are logged in, but not doing work. Even taking this into account, the average students spent 2 hours per week online. This supports the idea that it is likely that some of the students who took the poll may have overestimated the amount of time they work outside of class.

Thus, it is appropriate to change the number of units to 3 units. Upon reflection, we have concluded that the current outlines may mislead students in regards to how much work they expect to do when entering Math 40; a four unit class with a significantly greater workload than Math 12 or Math 23. Previously, the majority of our course outlines were written to reflect a traditional lecture class. Many years ago, when we doubled the number of hours in which our pre-algebra class met in order to allow the students class time for problem solving with activity work, we neglected to consider what a “unit” meant. We simply had the number of units reflect the number of classroom hours ONLY. We made the same mistake when we changed Math R from a 3 unit, 4 hour self-paced lab class into 2 – 2 unit lecture/activity classes and then into one 4 unit, 4 hour lecture/activity class. The new course outlines will rectify these mistakes.

2. Are there courses inconsistent with current practice in the field? Yes No
If the new outlines are approved, this will no longer be an issue.

3. Should new courses to be added to the program? Yes No

4. Are adjustments necessary to the conditions of enrollment (Prerequisite, Corequisite, Recommended Preparation, and Enrollment Limitations) for a specific course to increase student success?

Yes No Uncertain

We recognize that a large number of our students place lower than their previous educational experience indicates. In addition, it appears that many of these students need very little review before they do well in our Basic Skills courses. They seem to surpass the pace of the course quickly but perform poorly in the long run. We believe that we need to work with the placement office in two ways:

a. We should help them guide the students so they are aware that this is a high stakes test.

b. We are in the first conversation stages of considering offering a short term class in which to orient new students to the math program and to aid them in preparing to take or retake the placement test.

5. If the program offers a degree and/or certificate, list them and indicate when the requirements were last reviewed? (If not applicable, skip to Question 7.)

6. Are these degree and/or certificate requirements inconsistent with current practice?
 Yes No **Explain.**

7. Is there a need to create or delete a degree and/or certificate? Yes No

8. Should any recommendations be written that address the above responses?
 Yes No

B. Articulation

Instructions: Articulation is the process by which courses taken at ECC can be used to satisfy subject matter requirements at another college or university. This is important in the transfer process for students. To help you in this area, you can review articulation agreements at www.assist.org, the California Articulation Number Guide or meet with the Articulation Officer, Lori Suekawa (ext. 3517).

1. Are there any courses in your curriculum which are part of a lower division preparation for the major that are not articulated with our major transfer institutions? N/A
2. What problems, if any, are there in articulating these courses?
3. Should a recommendation be written addressing above responses? ___ Yes X No

C. Instruction and Assessment

1. Learning Methods

1. What learning methods are incorporated inside and outside the classroom in the program to promote student success?
There are a variety of learning methods observed inside and outside the classroom. In the classroom, traditional lectures are given, group and individual activities are presented (some of which are very informal and some of which have been reviewed and edited by multiple instructors) and work is done in our computer lab. Outside of the classroom, some students do homework from the textbook, some do homework and quizzes online, some complete activities started in the classroom, some organize notebook assignments given in the classroom. Our course outlines support a combination of all of these activities for Math 10, 12 and 23. In fact, the course outlines require that activities are presented inside the classroom.
2. Should a recommendation be written addressing above response? X Yes ___ No
 - With the Basic Skills funding that is now available we will be providing training workshops. These workshops are not mandatory, but the faculty will be paid for their time.
 - We need to consider the possibility of requiring some training for all new faculty in Basic Skills Math courses
 - We need a means of tracking and monitoring effective practices.
 - We need to develop teachers' resource packet designed to help the instructors understand and follow the course outlines

2. Assessment

1. How do you evaluate the extent to which the learning objectives, skills, and competencies are being met?

a) Courses

Math 10A/B and Math 12: Very recently, we met to discuss student learning outcomes. We wrote one student learning outcome.

Math 23 / 25: We wrote three student learning outcomes. We assessed one of them both in Spring 07 and Fall 07. There was very little feedback in Spring 07. There was far more feedback Fall 07 and we are ready to evaluate the feedback.

b) Program

Other than our recent involvement with student learning outcomes, the only method we currently use is the traditional method of trusting all of the instructors to assign appropriate grades to students who have met the learning objectives.

We have some other concerns. Most of our instructors do not have training in developmental education. In addition, a large number of the instructors at this level are part time. Without adequate training in the instruction of developmental mathematics, some of us may be or feel under-prepared to teach these courses.

c) How do you use the results of the above evaluation to improve student learning and the quality of the program?
We don't, yet.

2. Should a recommendation be written addressing this area? Yes No

- We need to write more program level student learning outcomes.
- We need to share the program level student learning outcomes we write with other divisions teaching basic skills and attempt to find common outcomes.
- We should develop a 6 year plan for assessing course level student learning outcomes in all of our basic skills math courses.

IV. Program Requirements

A. Instructional Support

1. Identify key instructional support areas used by the program.

Libraries & Programs:

	Library	X	Special Resource Center		Basic Skills Study Center		Library Orientation
	Music Library		Puente Program		Honors Transfer Program		Other (Please List)
	Learning Resource Center Media Materials Collection	X	Assessment/Testing Office	X	Counseling		
X	EOP&S/CalWORKS		Transfer Center	X	First Year Experience		
	Learning Communities	X	Project Success		Honors Transfer Program		

Computer Labs & Tutoring:

X	LMTC Computer Commons	X	SRC High Technology Center		Other Computer Lab: Please List.		Writing Center
	CAI MAC Lab		Writing Lab	X	MCS-8 Math Lab	X	LRC Tutorial
	CAI Windows Lab		Math & Science Lab	X	Course Management Systems (EDUCO etc...)	X	Math Studies Center, MCS 106
	TOP Lab		Keyboarding Center			X	SRC Tutorial
	Hawthorne BTC					X	EOP&S Tutorial
X	Inglewood Center						Supplemental Instruction

Faculty Support Services:

	Graphic Arts	X	Copy Center		Distance Education		Other (Please list.)
	Media Services AV Production	X	Tech Services Help Desk		Teleconferences	X	Mathematics Brownbag
	Media Services AV Equipment Distribution	X	Support Staff		Webconferences	X	Mathematics Cohort
	ECC Vehicles	X	ECC hosted Websites (PORTAL)	X	Staff Development	X	Basic Skills Initiative
X	ECC E-mail						

2. Do you have some instructional support needs that are not being met? Yes
 No

Adjunct faculty who teach the majority of our basic skills courses will benefit from having access to while-you-wait copy service. The Copy Center no longer processes while-you-wait copies due to lack of staff.

Instructors and students in the basic skills classes would also benefit from The Supplemental Instruction Program on our campus.

3. Should a recommendation be written to address your needs?
 Yes No

Our college should provide funding for the Copy Center to hire staff to resume while-you-wait service on at least selected days of the week.

More funding should also be allotted to extend Supplemental Instruction to help all students in this program.

A. Facilities and Equipment

1. Does the program make effective use of its facilities and equipment?

Yes, as the following answers to the questions in this section will indicate.

2. Are adequate facilities, equipment and supplies available for the program?
 Yes No

We've just installed new computer consoles in most of the MCS classrooms and MBBM 114 and they are helpful to instructors who use technology and/or online components in their classes.

In addition to having technology for instructional use in the classroom, there is also a computer lab for both student use and for occasional class visits. However, with increased use of online components as well as development of hybrid courses, this is no longer sufficient. We need a designated computer classroom with stations for students as well as instructors.

It would be also helpful to have document readers in the classrooms.

3. Are the facilities and equipment adequately maintained? Yes No

Donna Post, our lab technician, has done an excellent job in maintaining our equipment in the classrooms and computer labs.

4. Should a recommendation be written addressing the data? _____ Yes No

Plans are currently being made for a new math building and input is being solicited.

B. Staffing

Instructions: Analyze the data on **FTEF, adjunct FTEF, and the FT/PT ratio** for the most recent **spring semester** and answer the following questions:

FTEF (full-time equivalent faculty): # 14.53
Number of full-time FTEF: # 3.2
Number of adjunct FTEF: # 11.33
FT/PT load ratio: 0.28

1. How do the program numbers compare to a like semester (**Spring to Spring**) three years ago or the previous program review?

There is a slight drop in FTEF during the past 3 years. In spring 2006, the number of FTEF was 14.94. In spring 2005, the number of FTEF was 15.2.

2. What do the program data indicate? Comment on any trends or unusual data.

Although there is a slight drop in FTEF, the program data does not indicate any trends or unusual data. We typically offer fewer sections in spring semesters.

3. How does the FT/PT ratio benefit or harm the program?

The FT/PT ratio of 0.28 indicates that we need more full-time math instructors.

4. Do you have a faculty mentoring program? _____ Yes No

There have been numerous attempts which have met with limited success. The FT/PT ratio indicates there is not sufficient experienced faculty to mentor faculty whom are inexperienced with the specifics of this program.

5. How does faculty maintain currency in their field?

Our faculty remains current by attending on-campus Mathematics Brown Bag presentations, Mathematics Cohort Meetings, and off-campus conferences such as CMC³-South, AMATYC, NTCM, and MAA.

6. Fill in the faculty status below and answer the questions that follow.

Full-Time Faculty Who Normally Teach Basic Skills Math Courses

Name	Reassigned time (how much in %)	Currently on leave (check)	Retired in last 2 years (check)	FT hired last 3 years (check)	Anticipated to retire in next 3 years (check)
Bickford, S.					
Bredek, C.					
Broderick, C.					
Flaten, E.		X		X	
Ho, L.					
Kjeseth, L.					
Laureano- Ribas, K.				X	
Martinez, A.					
Meyer, T.					
Perinetti, D.					
Roeun, M.				X	
Scott, G.					
Sims, J.					
Taylor, R.					
Wang, L.					
Wozniak, P.					

Part-Time Faculty Who Normally Teach Basic Skills Math Courses

Name	Would Probably Leave if Offered a FT Position at Another CC	No Longer working at ECC
Adalinda, A.		
Avila, A.		
Baca, J.		X
Badalian, R.		X
Bateman, M.		
Bauman, R.		
Bayssa, B.		
Bucher, S.		
Bullock, S.		
Caldwell, R.		
Damenna, D.		
Damenna, Z.		
Dovner, B.		

Feiner, H.		
Ferrell, W.		
Formanes, M.		
Gibson, T.		
Gill, J.		
Gizaw, A.		
Granich, M.		
Hamza, H.		
Hoang, A.		
Huang, S.		
Le, L.		
Lopez, M.		
Maior, W.		
Martinez, J.		
McDonnell, P.		
Minasian, A.		
Ngo, H.		
Ni, H.		X
Owens, D		
Phung, Q.		
Rahnavard, M.		
Reeve, M.		
Root, A.		X
Saakian, L.		
Shamash, E.		
Sheynshteyn, A.		
Sibner, R.		
Stillson, A.		
Stoddard, P.		
Tadele, G.		
Wang, E.		
Wong, R.		
Woo, J.		
Yang, C.		
Yee, D.		

Note: This list changes significantly every semester and it is not possible to predict who might stay and who might leave.

a. How does this data impact the program?

It indicates that a majority of the basic skills courses are currently taught by part-time instructors. It further indicates that due to course requests and scheduling there is a lot of inconsistency among specific adjunct faculty teaching basic skills courses

b. Will this data affect the program in the future?

Yes, we should encourage more full-time instructors to be involved with the basic skills program. Our FTEF should have a higher ratio of fulltime faculty teaching basic skills.

7. From this information, can you identify present and future staffing needs? Yes No

Yes, we just hired two full-time instructors who have experience in teaching basic skills courses.

We are also in the process (Spring, 2008) of hiring at least one more fulltime instructor with a desired qualification to teach basic skills courses.

However, the number of fulltime faculty has not increased. We need, newly created positions as opposed to replacing faculty who taught upper division with new faculty that teach basic skills.

8. What is the department doing to address any future staffing needs?

We will continue to hire full-time instructors who can improve our basic skills program.

9. Should a recommendation be written addressing the data? Yes No

C. Planning

1. Do the program faculty and other personnel have a clear idea of what is happening in the program, where it is headed, what external changes are affecting it, and what changes need to be made in order to enable the program to adapt and continue to be successful? (Explain.)

Most full time faculty that are involved in these developmental courses are aware of what is being currently done, what affects those efforts, and what needs to be done in the future to enable the program to be successful. This is accomplished not only by word of mouth, but by an ongoing committee, made up of full and some adjunct faculty who regularly teach in the program, specifically charged with these considerations. It meets in regular intervals throughout the school year and deals with issues relevant to the program. Over the past several years, this committee has been able to work with the department and the entire school community to facilitate this work. They also try to keep all the appropriate adjunct instructors informed of major decisions that are made.

The Statewide Basic Skills Initiative (BSI) has also assisted with the improvement and success of this program. With the BSI funding, the math department created a new position, the Basic Skills Coordinator in the Fall, 2007. The coordinator has since been interacting with faculty who teach basic skills courses on a regular basis, conducting workshops that facilitate professional development in teaching basic skills courses, and

researching basic skills education. As part of this research, the coordinator will be attending the Kellogg Institute in the summer of 2008 to receive one month of training on educational policy and referendums relevant to basic skills nationwide. After which the program and its instructors can become fully aware of what external changes might be affecting the program and how to adapt the program in order to not only continue to be successful, but also to increase its success.

2. What data, not currently provided, would be needed in order to improve planning for the development of the program? (Explain.)

Data that tracks students in these developmental courses in subsequent mathematics work would help to identify those areas of strengths and weaknesses in the program. Information on such things as completion rates, success rates, major areas of study, etc., would help in the on- going process of evaluation.

3. What major external changes or trends do you expect to be of particular relevance to your discipline in the next five years?

One trend that seems to emerge is the increasing number of students who are in need of these developmental courses either coming out of high school or returning to college after some years of absence. This is evidenced in the increase of sections added to meet this demand over the last 5 to 10 years. Currently, there is no reason to believe this trend will not continue in the future as the number of job openings that require a higher education increase and the number of non-college bound students remains the same or increases, thus sending a larger number of under-prepared students into the community colleges to receive training for such jobs and employment.

Secondly, with the increasing use of and familiarity with computers and the internet there is interest in offering these developmental courses in some sort of on-line mode.

Third, some institutions are using a “cohort” based model of instruction in which groups of instructors and support personnel develop materials to be offered between and across courses. These materials are then used in a collaborative learning environment in the individual classes.

4. What will be the implications of these changes or trends for the program and how will the program need to respond?

The first trend mentioned above has implications in terms of resources of staff, scheduling, and funding. The department must decide at what level they will meet the demand for these developmental courses balanced against the needs of our transfer level offerings.

Some work has already been done regarding the second. Beginning efforts have been made with a hybrid on-line course (Math 12) in the Fall, 2007 semester. An evaluation process will help determine outcomes with this offering.

At El Camino there is an ongoing group of instructors involved in the cohort model working to implement what was mentioned in Question #3 above.

5. Base upon the information above, how would you like the program to evolve within the next five years?

Clearly, the department will have to make decisions regarding the number of sections offered for these developmental courses. Certainly the program should meet the needs of our students balanced against the overall balance of instruction.

If after careful examination evaluation of beginning pilot on-line offerings that indicate comparable or superior achievement levels, more sections using this mode of instruction could be offered.

The cohort model will be further implemented in the coming years.

6. Should a recommendation be written address the data? Yes No

As indicated above, recommendations would be made after the data is collected about course offerings, on-line success rates, and results of the cohort model.

V. Conclusion

1. Prioritized Recommendations

- A. Increase the number of fulltime math positions including those dedicated to teaching basic skills courses.
- B. Offer more sections of basic skills math courses during “prime time” (weekdays between 9 AM – 3 PM), while maintaining the current level of offerings at the transfer level.
- C. Coordinate resources with the Basic Skills Initiative (BSI) campus wide.
- D. Develop strategies for improving the success rate in the basic skills math courses.
- E. Increase faculty training specific to teaching basic skills math courses.
- F. Increase office space for adjunct faculty and grant them paid office hours.
- G. Develop and institute a tutor training program for all tutors in the Math Department.
- H. Create and maintain Student Learning Objectives (SLOs).
- I. Increase interaction with the math faculty at the Compton Center.
- J. Increase other faculty resources including While-You-Wait copy service.
- K. Increase and fund Supplemental Instruction.
- L. Assess online offerings and resources.

2. Major Needs

FUNDING:

- Increase the number of fulltime math positions including those dedicated to teaching basic skills courses.
- Increase faculty training specific to teaching basic skills math courses.
- Increase office space for adjunct faculty and grant them paid office hours.
- Develop and institute a tutor training program for all tutors in the Math Department.
- Increase other faculty resources including While-You-Wait copy service.
- Increase and fund Supplemental Instruction.

SPACE:

- Offer more sections of basic skills math courses during “prime time” (weekdays between 9 AM – 3 PM), while maintaining the current level of offerings at the transfer level.
- Increase office space for adjunct faculty and grant them paid office hours.
- Increase and fund Supplemental Instruction.

3. Strategies

- A. Increase the number of fulltime math positions including those dedicated to teaching basic skills courses.
 - Although it may appear that the number of fulltime faculty teaching Basic Skills math courses is increasing, due to recent hires and their preferences, the number of fulltime math positions in general has not increased.
 - We need, newly created positions as opposed to replacing faculty who taught upper division with new faculty that teach basic skills.

- B. Offer more sections of basic skills math courses.
 - Given the high rate of fill in the day classes, we may need to be open to adding more sections as space and staffing permit.
 - Enrollment indicates that evening and weekend sections are sufficient.
 - In addition, it appears that some students sign up for these sections even though they are not good candidates for these alternative times only because the day classes fill up before enrollment ends.
 - Increasing the number of day classes will allow students to take classes at times that might fit their schedules better, and thereby increasing their success.

- C. Coordinate resources with the Basic Skills Initiative (BSI) campus wide
 - Continue to seek information about other basic skills programs on campus that our students would benefit from and disseminate this information to all instructors in our program.

- D. Develop strategies for improving student success rate in the basic skills math courses.
 - Though the data indicates stability in our success rate, we need to be looking at how to improve this rate since these courses are gateways for college students taking them.
 - The department needs to continue looking at what affects student achievement in the pre-algebra level courses.
 - It is believed that many of the issues that impede student success are non academic.
 - Starting in Spring Semester 2008, some selected sections of these courses will be associated with specific sections of Human Development courses to try and improve the non mathematical skills of the students and increase academic success in these math courses.
 - We recommend that funding be continued in order to improve, strengthen and expand this link
 - Study the affects of linking a counselor to selected sections of Math 12. If the number of students who develop an educational plan increase, strengthen this link and increase the hours that the counselors can be given to do this job. It is reasonable to believe that, as the number of Basic Skills students who see their

assigned counselor through this link increases, the more cost effective this will become as students will no longer have as large of a need of while you wait counseling

- Develop the idea of a “Math Boot Camp” in which students who place into Basic Skills Math have the opportunity to take a 3 week summer class to refresh themselves mathematically in order to retake the placement test and possibly place into a higher level math course. If we have fewer students in our classes who already know the material, then the students who are in real need will be the prime focus of our instructors.
- Develop a stronger link with EOPS. They currently work with the Humanities department to offer preparatory summer classes in English and Human Development in order to have their students enter better prepared. Since their students represent a large number of basic skills courses, we are considering working with them to offer a short term preparatory Math class as well. We should continue to explore this option.

E. Increase faculty training specific to teaching basic skills math courses.

- With the Basic Skills funding that is now available we will be providing training workshops. These workshops are not mandatory, but the faculty will be paid for their time.
- We need to consider the possibility of requiring some training for all new faculty in Basic Skills Math courses
- We need a means of tracking and monitoring effective practices.
- We need to develop teachers’ resource packet designed to help the instructors understand and follow the course outlines
- The faculty who teach in the program is constantly changing. Develop a procedure in which new or returning faculty to the program can be kept abreast of all changes. If the position of Basic Skills Math Coordinator is continued, this could be that person’s job. Thus, it will be important to monitor this job and to see if the time release associated with that job is sufficient to accomplish these recommendations.

F. Increase office space for adjunct faculty

- The office space for part time faculty has decreased significantly in the past decade.
- It is essential that adjunct faculty have adequate office space in which to assist their students after class.
- In addition, we should pay our adjuncts to offer office hours.
- With a FT/PT ratio of 0.28, we clearly are not serving our students if we cannot offer them office hours.

G. Develop and institute a tutor training program for all tutors in the Math Department.

- Provide tutor training in the following ways:
- Train the tutors who work in the Math Study Center
- Train the tutors who work in the classroom to provide instructor assistance.

- Provide workshops for the instructors who have classroom tutors and give them an opportunity to meet tutors before the semester begins.
- H. Create and maintain Student Learning Objectives (SLOs)
- We need to complete the assessment cycle for more program level student learning outcomes.
 - We need to share the program level student learning outcomes we write with other divisions teaching basic skills and attempt to find common outcomes.
 - We should develop a 6 year plan for assessing course level student learning outcomes in all of our basic skills math courses.
- I. Increase interaction with the math faculty at the Compton Center
- In the future, we need to involve the Compton Center.
 - They were not part of this program review and have only just begun being part of our student learning outcomes.
 - We plan to begin having some joint committee meeting with the Compton Math Faculty.
- J. Increase other faculty resources including while-you-wait copy service.
- Our college should provide funding for the Copy Center to hire staff to resume while-you-wait service on at least selected days of the week.
- K. Increase and fund Supplemental Instruction.
- More funding should also be allotted to extend Supplemental Instruction to help pre-algebra students.
- L. Assess online offerings and resources
- There seems to be a need to discern more closely what we could effectively offer in an electronic mode.
 - Given this is a new modality of instruction for many students and faculty, it will take some trial and error in offering and monitoring of feedback and success rates to be able to competently meet this perceived need by the students.
 - Several instructors are starting to offer hybrid courses 51% on campus, 49% online. None are yet in the basic skills courses.
 - Although there is some trepidation on the part of the faculty to offer these courses to a population whose academic skills and discipline is traditionally weak, it is a way of creating flexibility for students who also often have very busy lives.
 - If the department decides to embark on online for basic skills classes the success rates and retention rates should be monitored closely in a pilot program to insure that student success and retention is at least as good as 100% on campus classes (all instruction done in classroom, traditional)
 - Provide training to faculty regarding available computer software and online resources. In addition, provide information that can be distributed to all students regarding these resources. Not all instructors require that students use these resources, but all students should have the opportunity to learn what the resources are and how they can be accessed.

- Review the technology available in the Learning Resource Center. Determine how this can be used for students who are not prepared for our first course in mathematics. Disseminate this information to all faculty so they can properly advise students who are not quite ready for their courses. Also, there are some classes associated with this software. Find out who should be contacted so that math faculty are aware of other programs and can send students in need to these instructors and/or classes.
- We need a designated computer classroom with stations for students as well as instructors.

Appendix

Student Survey

Student Survey Results

Basic Skills Student Survey (Fall 2007)

1. I am currently taking

___ Math 10A ___ Math 10B ___ Math 12 ___ Math23

2. I am taking this class for the following purpose:

- ___ AA/AS Degree
- ___ Requirement for transferring to a 4-year college/university
- ___ Recommended by a counselor (or advisor)
- ___ Certificate of completion
- ___ Certificate of competence
- ___ Employment
- ___ Career advancement
- ___ Personal enrichment
- ___ Re-training
- ___ Other (Please specify) _____

3. Is this the first math class you have taken at ECC? Yes ___ No ___

4. If bubbled in "No" in question #3, which other math class(es) have you taken at ECC?

___ Math 10A ___ Math 10B ___ Math 12 ___ Math23 ___ Math 25

5. Gender: Male ___ Female ___

6. My Age is

___ under 18 ___ 18-24 ___ 25-29 ___ 30-34 ___ 35-39
___ 40-44 ___ 45-49 ___ 45-49 ___ 50-54 ___ over 60

7. Educational attainment ___ No HS
 ___ HS, no diploma
 ___ HS diploma

8. Educational Status ___ First term at ECC
 ___ Continuing student
 ___ Returning student
 ___ High school student

9. Is this the first college you have attended? ___ Yes ___ No

10. I am currently taking

___ 5 or less units
___ 6 – 8 units
___ 9-11 units
___ 12-14 units
___ 14 or more units

11. Indicate the area of you intend to major:

- Physical Sciences
- Life Sciences
- Engineering
- Math or Computer Sciences
- Business
- Economics
- Humanity or Fine Arts
- Behavioral & Social Sciences
- Undeclared

12. Are you currently employed in _____ field? Yes No

13. If bubbled in “Yes” in question #12, how many hours a week are you employed?

- Less than 5 hours
- 5- 14 hours
- 15-24 hours
- 25-34 hours
- More than 35 hours

14. Are the facilities of the math department well maintained?

- a) Classrooms Yes No
- b) Computer Lab Yes No

15. If bubbled in “No”, please indicate which area needs the most improvement:

16. I have used my instructor’s office hours to get help in math. Yes No

17. I can use email to correspond with my instructor. Yes No

18. I have internet access at home. Yes No

19. Which of the following technology resources have you used in a math class?

- Educo
- Boxer
- MyMathLab
- Course Campus
- WebAssign
- MathXL
- Calculator
- Other (Please specify) _____
- N/A

20. Which one of the following best describes your learning style?

- Auditory**
- Visual**
- Hands-On**

21. Which of the following have you found helpful in class other than lecture?

- Group Activities
- Individual Activities
- Student Tutor
- Technology
- Other (Please specify) _____

22. Below is a list of El Camino College support services. Which of the following services have you found helpful as it pertains to this course?

- | | |
|--|--|
| <input type="checkbox"/> Math Tutoring Center | <input type="checkbox"/> Assessment/Testing Office |
| <input type="checkbox"/> Project Success | <input type="checkbox"/> Supplemental Instruction |
| <input type="checkbox"/> Counseling | <input type="checkbox"/> SRC/SRC Tutoring Program |
| <input type="checkbox"/> First Year Experience | <input type="checkbox"/> Puente Program |
| <input type="checkbox"/> Library | <input type="checkbox"/> LRC Media Materials |
| <input type="checkbox"/> EOP&S/CalWorks | <input type="checkbox"/> Learning Communities |
| <input type="checkbox"/> LRC Tutoring Program | |

23. Which of the following computer labs do you use on a regular basis?

- | | |
|--|---|
| <input type="checkbox"/> Math Lab at MCS-8 | <input type="checkbox"/> Writing Lab |
| <input type="checkbox"/> LMTC Computer Commons | <input type="checkbox"/> Inglewood Center |
| <input type="checkbox"/> CAI MAC Lab | <input type="checkbox"/> SRC High Tech Center |
| <input type="checkbox"/> TOP Lab | <input type="checkbox"/> CAI Windows Lab |
| <input type="checkbox"/> Hawthorne BTC | <input type="checkbox"/> Keyboarding Center |

24. One a scale of 1 to 5, where 5 is very satisfied and 1 is very unsatisfied, please indicate your satisfaction with the scheduling of classes offered during:

- Early morning before 10:00 am
- Late morning/early afternoon from 10:00 am to 1:55 pm
- Late afternoon from 2:00 pm to 4:25 pm
- Evening from 4:30 pm and later
- Weekend
- Summer intersession
- Winter intersession
- Through online instruction
- Through telecourses

PR Math Basic Skills Student Survey Fall 2007

1. I am currently taking

Response	Frequency	Percent	Mean: 3.14
Math 10A	61	10.08	
Math 10B	47	7.77	
Math 12	242	40.00	
Math23	255	42.15	

2. I am taking this class for the following purpose:

Response	Frequency	Percent	Mean: 2.30
AA/AS Degree	216	35.18	
Requirement for 288 transferring to a 4-year college/university	288	46.91	
Recommended by a counselor [or advisor]	52	8.47	
Certificate of completion	4	0.65	
Certificate of competence	1	0.16	
Employment	2	0.33	
Career advancement	13	2.12	
Personal enrichment	15	2.44	
Re-training	8	1.30	
Other [Please specify]	15	2.44	

3. Is this the first math class you have taken at ECC?

Response	Frequency	Percent	Mean: 1.31
Yes	492	69.39	
No	217	30.61	

4. If bubbled in "No" in question #3, which other math class(es) have you taken at ECC?

Response	Frequency	Percent	Mean: -
Math 10A	166	79.43	
Math 10B	101	48.33	
Math 12	20	9.57	
Math23	24	11.48	
Math 25	2	0.96	

5. Gender:

Response	Frequency	Percent	Mean: 1.64
Male	253	35.89	
Female	452	64.11	

6. My Age is

Response	Frequency	Percent	Mean: 2.39
under 18	43	6.13	
18-24	528	75.32	
25-29	53	7.56	
30-34	26	3.71	
35-39	18	2.57	
40-44	18	2.57	
45-49	7	1.00	
50-54	8	1.14	
over 60	0	0.00	

7. Educational attainment

Response	Frequency	Percent	Mean: 2.91
No High School	12	1.87	
Some High School- no diploma	32	4.99	
High School diploma	597	93.14	

9. Is this the first college you have attended?

Response	Frequency	Percent	Mean: 1.23
Yes	544	77.38	
No	159	22.62	

11. Indicate the area in which you intend to major:

Response	Frequency	Percent	Mean: 6.72
Physical Sciences	44	6.50	
Life Sciences	46	6.79	
Engineering	27	3.99	
Math or Computer Sciences	19	2.81	
Business	97	14.33	
Economics	2	0.30	
Humanity or Fine Arts	59	8.71	
Behavioral & Social Sciences	103	15.21	
Undeclared	280	41.36	

13. If bubbled in "Yes" in question #12, how many hours a week are you employed?

Response	Frequency	Percent	Mean: 3.80
Less than 5 hours	10	2.25	
5- 14 hours	40	8.99	
15-24 hours	130	29.21	
25-34 hours	114	25.62	
More than 35 hours	151	33.93	

8. Educational Status

Response	Frequency	Percent	Mean: 1.61
First term at ECC	257	53.43	
Continuing student	165	34.30	
Returning student	48	9.98	
High school student	11	2.29	

10. I am currently taking

Response	Frequency	Percent	Mean: 3.00
5 or less units	118	16.67	
6 - 8 units	130	18.36	
9-11 units	126	17.80	
12-14 units	299	42.23	
14 or more units	35	4.94	

12. Are you currently employed?

Response	Frequency	Percent	Mean: 1.37
Yes	444	62.54	
No	266	37.46	

14. Are the facilities of the math department well maintained? b) Computer Lab

Response	Frequency	Percent	Mean: 1.07
Yes	595	92.53	
No	48	7.47	

14. Are the facilities of the math department well maintained? a) Classrooms

Response	Frequency	Percent	Mean: 1.06
Yes	667	94.21	
No	41	5.79	

17. I can use email to correspond with my instructor.

Response	Frequency	Percent	Mean: 1.14
Yes	603	86.14	
No	97	13.86	

19. Which of the following technology resources have you used in a math class?

Response	Frequency	Percent	Mean: -
Educo	109	16.10	
Boxer	1	0.15	
MyMathLab	18	2.66	
Course Campus	14	2.07	
WebAssign	5	0.74	
MathXL	2	0.30	
Calculator	269	39.73	
Other [Please specify]	20	2.95	
Not Applicable	271	40.03	

16. I have used my instructor's office hours to get help in math.

Response	Frequency	Percent	Mean: 1.83
Yes	117	16.81	
No	579	83.19	

18. I have internet access at home.

Response	Frequency	Percent	Mean: 1.17
Yes	579	82.83	
No	120	17.17	

20. Which one of the following best describes your learning style?

Response	Frequency	Percent	Mean: 2.37
Auditory [need to hear it]	33	5.55	
Visual [need to see it]	310	52.10	
Hands-On [need to do it]	252	42.35	

21. Which of the following have you found helpful in class other than lecture?

Response	Frequency	Percent	Mean: -
Group Activities	337	49.78	
Individual Activities	287	42.39	
Student Tutor Technology	238	35.16	
Other [Please specify]	97	14.33	
	40	5.91	

22. Below is a list of El Camino College support services. Which of the following services have you found helpful as it pertains to this course?

Response	Frequency	Percent	Mean: -
Math Tutoring Center	212	40.23	
Assessment/Testing Office	49	9.30	
Project Success	8	1.52	
Supplemental Instruction	11	2.09	
Counseling	115	21.82	
SRC/SRC Tutoring Program	10	1.90	
First Year Experience	87	16.51	
Puente Program	5	0.95	
Library	246	46.68	
LRC Media Materials	7	1.33	
EOP&S/CalWorks	85	16.13	
Learning Communities	9	1.71	
LRC Tutoring Program	9	1.71	

23. Which of the following computer labs do you use on a regular basis?

Response	Frequency	Percent	Mean: -
Math Lab at MCS-8	136	34.26	
Writing Lab	139	35.01	
LMTC Commons [Library]	106	26.70	
Inglewood Center	7	1.76	
CAI MAC Lab	1	0.25	
EOP & S Lab	61	15.37	
SRC High Tech Center	2	0.50	
TOP Lab	8	2.02	
CAI Windows Lab	1	0.25	
Hawthorne BTC Center	3	0.76	
Keyboarding Center	9	2.27	

Early morning before 10:00 am

Response	Frequency	Percent	Mean: 3.87
5	296	44.98	
4	137	20.82	
3	128	19.45	
2	36	5.47	
1	61	9.27	

Late morning/early afternoon from 10:00 am to 1:55 pm

Response	Frequency	Percent	Mean: 3.90
5	267	41.52	
4	182	28.30	
3	107	16.64	
2	38	5.91	
1	49	7.62	

Late afternoon from 2:00 pm to 4:25 pm

Response	Frequency	Percent	Mean: 3.27
5	164	25.87	
4	116	18.30	
3	173	27.29	
2	91	14.35	
1	90	14.20	

Evening from 4:30 pm and later

Response	Frequency	Percent	Mean: 2.90
5	171	25.95	
4	88	13.35	
3	130	19.73	
2	102	15.48	
1	168	25.49	

Weekend

Response	Frequency	Percent	Mean: 2.58
5	128	20.55	
4	69	11.08	
3	100	16.05	
2	67	10.75	
1	259	41.57	

Summer intersession

Response	Frequency	Percent	Mean: 3.60
5	226	36.22	
4	148	23.72	
3	138	22.12	
2	52	8.33	
1	60	9.62	

Winter intersession

Response	Frequency	Percent	Mean: 3.69
5	212	34.14	
4	158	25.44	
3	149	23.99	
2	49	7.89	
1	53	8.53	

Through online instruction/Distance education

Response	Frequency	Percent	Mean: 3.02
5	141	22.71	
4	96	15.46	
3	162	26.09	
2	81	13.04	
1	141	22.71	

Through telecourses

Response	Frequency	Percent	Mean: 2.72
5	99	16.15	
4	72	11.75	
3	173	28.22	
2	98	15.99	
1	171	27.90	

