Part 2 – Comprehensive Program Review Fall 2009

Program Name: **Mathematics Program, Science, Math, and Engineering Division**

A. PAST: Review of Program Performance, Objectives, and Outcomes for the Three Previous Academic Years: 2006-07, 2007-08, 2008-09

1. List the objectives developed for this program during the last comprehensive program review.

The principle program objectives of the Mathematics program during 2005-2008 were to:

1. Offer a combined/accelerated version of Math 70 & Math 80, Fall 2005.
2. Collaborate with the business division to offer Computer Science courses by 2007
3. Develop and implement a vocational math course by 2005.
4. Modernize the departmental infrastructure.
5. Provide more transferable courses at the external campuses and extend the hours of operation of the Math Lab.
6. Provide IVC students access to math classes.
7. Interact with the public and with universities concerning the math classes offered at IVC.

2. Present program performance data in tabular form for the previous three years that demonstrates the program's performance toward meeting the previous objectives. Include the following standard program performance metrics as well additional program specific metrics, if any.
   a. For teaching programs this data should include at least the following: Enrollment at census, number of sections, fill rate, retention rate, success rate, and grade distribution for each course in the program, during each semester and session of the previous three academic years. In addition, the Full Time Equivalent Faculty (FTEF) and Full Time Equivalent Students (FTES) and the ratio of FTES per FTEF should be presented for the program for each semester and session.
   b. For non teaching programs this data should include the following: TBD

Mathematics Program
Enrollment Count at Census

Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
MATH 110	46	61	56	163	63	55	54	172	35	24		59					394
MATH 112	41	39	34	114	32	39	39	110	15	22		37					261

MATH 113	11	4	9	24													24
MATH 114	63	65	42	170	58	42	80	180	26	16		42					392
MATH 119			219	219			258	258			100	100			72	72	649
MATH 120	369	412		781	355	361		716	109	109		218	104	105		209	1924
MATH 121		6		6	15	11		26									32
MATH 122			15	15	11	22	17	50									65
MATH 130		9		9													9
MATH 140	72	66	67	205	65	49	65	179	33	29	35	97	26	23	33	82	563
MATH 150	15	29	20	64		33	29	62						10		10	136
MATH 170							17	17									17
MATH 190	10	31	33	74	42	42	53	137	31	20		51		16	24	40	302
MATH 192	52	62	49	163	36	32	36	104						15		15	282
MATH 194	27	17	29	73	26	42	36	104									177
MATH 210					19	22	30	71									71
MATH 220					7	15	26	48									48
MATH 230	15	26	27	68													68
MATH 240	20	18	25	63													63
MATH 241	6	11		17													17
MATH 40		4	69	73	4		33	37									110
MATH 60	52	88	66	206	54	54	55	163			29	29	11			11	409
MATH 70	174	182	342	698	216	205	424	845	44	91	136	271	45	57	124	226	2040
MATH 80	618	566	570	1754	480	494	447	1421	85	145	141	371	113	117	139	369	3915
MATH 90	820	877	771	2468	687	678	687	2052	232	270	265	767	230	238	271	739	6026
MATH 92		6		6													6
Total	2411	2579	2443	7433	2170	2196	2386	6752	610	726	706	2042	529	581	663	1773	18000

Mathematics Program
Number of Sections

Course	Fall				Spring				Sum.				Win.				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
MATH 110	2	2	2	6	2	2	2	6	1	1		2					14
MATH 112	1	1	1	3	1	1	1	3	1	1		2					8
MATH 113	1	1	1	3													3
MATH 114	2	2	2	6	2	2	2	6	1	1		2					14
MATH 119			8	8			9	9			4	4			3	3	24
MATH 120	13	13		26	14	13		27	4	4		8	5	5		10	71
MATH 121		1		1	1	1		2									3
MATH 122			1	1	1	1	1	3									4
MATH 130		1		1													1
MATH 140	2	2	2	6	2	2	2	6	1	1	1	3	1	1	1	3	18
MATH 150	1	1	1	3		1	1	2						1		1	6
MATH 170							1	1									1
MATH 190	1	2	2	5	2	2	2	6	1	1		2		1	1	2	15
MATH 192	2	2	2	6	1	1	1	3						1		1	10
MATH 194	1	1	1	3	1	1	1	3									6
MATH					1	1	1	3									3

210																	
MATH 220					1	1	1	3									3
MATH 230	1	1	1	3													3
MATH 240	1	1	1	3													3
MATH 241	1	1		2													2
MATH 40		1	2	3	1		1	2									5
MATH 60	1	1	1	3	1	1	1	3			2	2	1			1	9
MATH 70	5	5	10	20	6	6	12	24	2	4	4	10	3	3	4	10	64
MATH 80	19	18	22	59	19	19	16	54	6	7	7	20	7	6	6	19	152
MATH 90	25	25	21	71	21	20	18	59	8	8	8	24	8	9	9	26	180
MATH 92		1		1													1
Total	79	83	81	243	77	75	73	225	25	28	26	79	25	27	24	76	623

Mathematics Program
Student Retention Rate

Course	Fall				Spring				Summer				Winter				3-Year Average
	2006	2007	2008	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	
MATH110	70%	83%	86%	79%	73%	85%	92%	84%	89%	96%		92%					84%
MATH112	92%	100%	94%	95%	94%	90%	79%	88%	100%	100%		100%					94%
MATH113	86%	100%	88%	91%													91%
MATH114	90%	95%	88%	91%	91%	100%	80%	90%	77%	88%		82%					89%
MATH119			68%	68%			79%	79%			83%	83%			82%	82%	78%
MATH120	61%	67%		64%	61%	72%		66%	72%	86%		79%	80%	81%		80%	73%
MATH121		50%		50%	100%	82%		91%									77%
MATH122			60%	60%	100%	86%	59%	82%									76%
MATH130		67%		67%													67%
MATH140	53%	59%	81%	64%	63%	65%	63%	64%	94%	75%	71%	80%	85%	87%	76%	83%	73%
MATH150	53%	67%	75%	65%		94%	72%	83%						90%		90%	75%
MATH170						86%	76%	81%									81%
MATH190	90%	74%	70%	78%	74%	69%	79%	74%	90%	95%		93%		94%	92%	93%	83%
MATH192	65%	71%	88%	75%	61%	72%	39%	57%						93%		93%	70%
MATH194	74%	88%	97%	86%	88%	93%	72%	85%									85%
MATH210					89%	100%	97%	95%									95%
MATH220					86%	80%	92%	86%									86%
MATH230	80%	81%	90%	83%													83%
MATH240	74%	88%	60%	74%													74%
MATH241	83%	100%		92%													92%
MATH40		100%	91%	96%	100%		100%	100%									98%
MATH60	81%	83%	79%	81%	80%	76%	82%	79%			97%	97%	86%			86%	83%
MATH70	71%	74%	83%	76%	73%	79%	68%	73%	80%	79%	83%	80%	89%	96%	85%	90%	80%
MATH80	72%	70%	82%	75%	69%	63%	71%	68%	81%	78%	83%	81%	76%	76%	86%	79%	76%
MATH90	66%	61%	72%	66%	54%	55%	64%	57%	70%	72%	86%	76%	83%	70%	78%	77%	69%
MATH92		80%		80%													80%
Average	74%	79%	80%	78%	80%	80%	76%	79%	84%	85%	84%	84%	83%	86%	83%	84%	80%

Mathematics Program
Student Success Rate

Course	Fall				Spring				Summer				Winter				3-Year Average
	2006	2007	2008	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	
MATH110	70%	55%	66%	64%	70%	78%	68%	72%	77%	96%		86%					72%
MATH112	78%	90%	88%	85%	81%	85%	64%	77%	100%	100%		100%					86%
MATH113	86%	100%	75%	87%													87%
MATH114	76%	81%	85%	81%	80%	95%	80%	85%	73%	88%		80%					82%
MATH119			55%	55%			61%	61%			62%	62%			74%	74%	63%
MATH120	47%	51%		49%	46%	61%		53%	61%	69%		65%	70%	71%		71%	60%
MATH121		33%		33%	100%	82%		91%									72%
MATH122			47%	47%	91%	59%	35%	62%									58%
MATH130		67%		67%													67%
MATH140	26%	52%	61%	46%	43%	39%	42%	41%	82%	61%	54%	66%	69%	74%	74%	72%	56%
MATH150	53%	48%	60%	54%		91%	59%	75%						90%		90%	67%
MATH170						64%	71%	67%									67%
MATH190	60%	55%	48%	54%	55%	52%	68%	58%	74%	90%		82%		75%	88%	81%	67%
MATH192	38%	56%	73%	56%	42%	47%	39%	42%						93%		93%	56%
MATH194	41%	65%	79%	62%	69%	62%	36%	56%									59%
MATH210					84%	91%	73%	83%									83%
MATH220					71%	80%	77%	76%									76%
MATH230	67%	62%	72%	67%													67%
MATH240	58%	65%	48%	57%													57%
MATH241	67%	100%		83%													83%
MATH40		100%	78%	89%	100%		100%	100%									94%
MATH60	40%	40%	38%	39%	39%	44%	47%	44%			97%	97%	71%			71%	52%
MATH70	49%	60%	65%	58%	54%	53%	50%	52%	70%	70%	78%	73%	76%	79%	76%	77%	65%
MATH80	44%	45%	58%	49%	41%	41%	53%	45%	72%	71%	65%	69%	57%	62%	73%	64%	57%

MATH90	35%	34%	41%	37%	34%	35%	33%	34%	54%	62%	69%	62%	65%	57%	63%	62%	49%
MATH92		80%		80%													80%
Avg.	55%	64%	63%	61%	65%	64%	59%	63%	74%	78%	71%	75%	68%	75%	75%	73%	65%

Grade Distribution

Term	Sem.	Year	Program	Course	A	B	C	CR	D	F	Other	W	Total	# Succeed	Success Rate	Retention Rate
200710	Fall	2006	MATH	MATH110	6	14	12					14	46	32	69.6%	69.6%
200710	Fall	2006	MATH	MATH112	7	10	12		3	2		3	37	29	78.4%	91.9%
200710	Fall	2006	MATH	MATH113	6							1	7	6	85.7%	85.7%
200710	Fall	2006	MATH	MATH114	33	12	3			9		6	63	48	76.2%	90.5%
200710	Fall	2006	MATH	MATH120	41	64	70		18	32	3	143	371	175	47.2%	61.5%
200710	Fall	2006	MATH	MATH140	6	8	5		10	9		34	72	19	26.4%	52.8%
200710	Fall	2006	MATH	MATH150	1	3	4					7	15	8	53.3%	53.3%
200710	Fall	2006	MATH	MATH190		3	3		3			1	10	6	60.0%	90.0%
200710	Fall	2006	MATH	MATH192	6	8	6		7	7		18	52	20	38.5%	65.4%
200710	Fall	2006	MATH	MATH194		6	5		5	4		7	27	11	40.7%	74.1%
200710	Fall	2006	MATH	MATH230	3	2	5		1	1		3	15	10	66.7%	80.0%
200710	Fall	2006	MATH	MATH240	3		8		2	1		5	19	11	57.9%	73.7%
200710	Fall	2006	MATH	MATH241	4					1		1	6	4	66.7%	83.3%
200710	Fall	2006	MATH	MATH60				21			21	10	52	21	40.4%	80.8%
200710	Fall	2006	MATH	MATH70	27	23	36		7	31		50	174	86	49.4%	71.3%
200710	Fall	2006	MATH	MATH80	63	87	119		67	106	2	174	618	269	43.5%	71.8%
200710	Fall	2006	MATH	MATH90	34	86	169		96	154	2	280	821	289	35.2%	65.9%
200715	Win.	2007	MATH	MATH120	29	25	19		4	6		21	104	73	70.2%	79.8%
200715	Win.	2007	MATH	MATH140	5	1	12		4			4	26	18	69.2%	84.6%
200715	Win.	2007	MATH	MATH60				5			1	1	7	5	71.4%	85.7%
200715	Win.	2007	MATH	MATH70	15	11	8		1	5		5	45	34	75.6%	88.9%

200715	Win.	2007	MATH	MATH80	15	22	27		10	12		27	113	64	56.6%	76.1%
200715	Win.	2007	MATH	MATH90	28	46	73		28	11	1	39	226	147	65.0%	82.7%
200720	Spr.	2007	MATH	MATH110	5	16	23		1	1		17	63	44	69.8%	73.0%
200720	Spr.	2007	MATH	MATH112	3	13	10		3	1		2	32	26	81.3%	93.8%
200720	Spr.	2007	MATH	MATH114	26	15	3			6		5	55	44	80.0%	90.9%
200720	Spr.	2007	MATH	MATH120	40	58	65		29	24		139	355	163	45.9%	60.8%
200720	Spr.	2007	MATH	MATH121	9	2	1						12	12	100.0%	100.0%
200720	Spr.	2007	MATH	MATH122	1	7	2		1				11	10	90.9%	100.0%
200720	Spr.	2007	MATH	MATH140	7	9	12		9	4		24	65	28	43.1%	63.1%
200720	Spr.	2007	MATH	MATH190	5	6	12		5	3		11	42	23	54.8%	73.8%
200720	Spr.	2007	MATH	MATH192	1	5	9		4	3		14	36	15	41.7%	61.1%
200720	Spr.	2007	MATH	MATH194	3	6	9		2	3		3	26	18	69.2%	88.5%
200720	Spr.	2007	MATH	MATH210	4	8	4			1		2	19	16	84.2%	89.5%
200720	Spr.	2007	MATH	MATH220	2	2	1			1		1	7	5	71.4%	85.7%
200720	Spr.	2007	MATH	MATH40				4					4	4	100.0%	100.0%
200720	Spr.	2007	MATH	MATH60				21			22	11	54	21	38.9%	79.6%
200720	Spr.	2007	MATH	MATH70	42	36	32		9	30		56	205	110	53.7%	72.7%
200720	Spr.	2007	MATH	MATH80	35	55	106		44	88		145	473	196	41.4%	69.3%
200720	Spr.	2007	MATH	MATH90	27	59	150		48	83	1	317	685	236	34.5%	53.7%
200730	Sum.	2007	MATH	MATH110	6	17	4			4		4	35	27	77.1%	88.6%
200730	Sum.	2007	MATH	MATH112	5	7	3						15	15	100.0%	100.0%
200730	Sum.	2007	MATH	MATH114	13	6				1		6	26	19	73.1%	76.9%
200730	Sum.	2007	MATH	MATH120	15	33	19		10	1		31	109	67	61.5%	71.6%
200730	Sum.	2007	MATH	MATH140	7	13	7		1	3		2	33	27	81.8%	93.9%
200730	Sum.	2007	MATH	MATH190	2	3	18		4	1		3	31	23	74.2%	90.3%
200730	Sum.	2007	MATH	MATH70	25	4	2		3	1		9	44	31	70.5%	79.5%
200730	Sum.	2007	MATH	MATH80	26	22	13		3	5		16	85	61	71.8%	81.2%
200730	Sum.	2007	MATH	MATH90	15	45	66		16	20		70	232	126	54.3%	69.8%
200810	Fall	2007	MATH	MATH110	5	8	19		10	6		10	58	32	55.2%	82.8%
200810	Fall	2007	MATH	MATH112	7	15	13		2	2			39	35	89.7%	100.0%
200810	Fall	2007	MATH	MATH113	2		2						4	4	100.0%	100.0%
200810	Fall	2007	MATH	MATH114	29	12	11		1	8		3	64	52	81.3%	95.3%

200810	Fall	2007	MATH	MATH120	47	76	85		25	42		134	409	208	50.9%	67.2%
200810	Fall	2007	MATH	MATH121	1	1				1		3	6	2	33.3%	50.0%
200810	Fall	2007	MATH	MATH130	2	3	1					3	9	6	66.7%	66.7%
200810	Fall	2007	MATH	MATH140	5	15	14		3	2		27	66	34	51.5%	59.1%
200810	Fall	2007	MATH	MATH150	2	3	8		4	1		9	27	13	48.1%	66.7%
200810	Fall	2007	MATH	MATH190	4	6	7		4	2		8	31	17	54.8%	74.2%
200810	Fall	2007	MATH	MATH192	8	15	12		3	6		18	62	35	56.5%	71.0%
200810	Fall	2007	MATH	MATH194	5	3	3		2	2		2	17	11	64.7%	88.2%
200810	Fall	2007	MATH	MATH230	1	3	12		5			5	26	16	61.5%	80.8%
200810	Fall	2007	MATH	MATH240	2	3	6		4			2	17	11	64.7%	88.2%
200810	Fall	2007	MATH	MATH241	11								11	11	100.0%	100.0%
200810	Fall	2007	MATH	MATH40				4					4	4	100.0%	100.0%
200810	Fall	2007	MATH	MATH60				35			38	15	88	35	39.8%	83.0%
200810	Fall	2007	MATH	MATH70	24	42	40		12	13		47	178	106	59.6%	73.6%
200810	Fall	2007	MATH	MATH80	47	71	133		53	91		169	564	251	44.5%	70.0%
200810	Fall	2007	MATH	MATH90	36	75	186		102	128	2	335	864	297	34.4%	61.2%
200810	Fall	2007	MATH	MATH92				4				1	5	4	80.0%	80.0%
200815	Win.	2008	MATH	MATH120	18	20	37		5	5		20	105	75	71.4%	81.0%
200815	Win.	2008	MATH	MATH140	3	2	12		2	1		3	23	17	73.9%	87.0%
200815	Win.	2008	MATH	MATH150	2		7					1	10	9	90.0%	90.0%
200815	Win.	2008	MATH	MATH190		2	10		3			1	16	12	75.0%	93.8%
200815	Win.	2008	MATH	MATH192	2	4	8					1	15	14	93.3%	93.3%
200815	Win.	2008	MATH	MATH70	16	18	11		3	7		2	57	45	78.9%	96.5%
200815	Win.	2008	MATH	MATH80	27	23	22		8	9		28	117	72	61.5%	76.1%
200815	Win.	2008	MATH	MATH90	33	46	56		17	15		71	238	135	56.7%	70.2%
200820	Spr.	2008	MATH	MATH110	10	21	12		4			8	55	43	78.2%	85.5%
200820	Spr.	2008	MATH	MATH112	5	10	18		1	1		4	39	33	84.6%	89.7%
200820	Spr.	2008	MATH	MATH114	18	10	12		2				42	40	95.2%	100.0%
200820	Spr.	2008	MATH	MATH120	38	100	82		12	26	2	101	361	220	60.9%	72.0%
200820	Spr.	2008	MATH	MATH121	7	2						2	11	9	81.8%	81.8%
200820	Spr.	2008	MATH	MATH122	1	6	6		5	1		3	22	13	59.1%	86.4%
200820	Spr.	2008	MATH	MATH140	3	9	7		4	9		17	49	19	38.8%	65.3%

200820	Spr.	2008	MATH	MATH150	12	12	6			1		2	33	30	90.9%	93.9%
200820	Spr.	2008	MATH	MATH170	3	3	3		1	2		2	14	9	64.3%	85.7%
200820	Spr.	2008	MATH	MATH190	2	6	14		5	2		13	42	22	52.4%	69.0%
200820	Spr.	2008	MATH	MATH192	3	1	11		5	3		9	32	15	46.9%	71.9%
200820	Spr.	2008	MATH	MATH194	5	9	12		8	5		3	42	26	61.9%	92.9%
200820	Spr.	2008	MATH	MATH210	4	7	9		2				22	20	90.9%	100.0%
200820	Spr.	2008	MATH	MATH220	5	6	1					3	15	12	80.0%	80.0%
200820	Spr.	2008	MATH	MATH60				24			17	13	54	24	44.4%	75.9%
200820	Spr.	2008	MATH	MATH70	28	43	37		13	41		43	205	108	52.7%	79.0%
200820	Spr.	2008	MATH	MATH80	52	57	91		37	74		179	490	200	40.8%	63.5%
200820	Spr.	2008	MATH	MATH90	34	62	138		51	83		307	675	234	34.7%	54.5%
200830	Sum.	2008	MATH	MATH110	8	8	7					1	24	23	95.8%	95.8%
200830	Sum.	2008	MATH	MATH112	10	10	2						22	22	100.0%	100.0%
200830	Sum.	2008	MATH	MATH114	12	2						2	16	14	87.5%	87.5%
200830	Sum.	2008	MATH	MATH120	15	26	34		9	10		15	109	75	68.8%	86.2%
200830	Sum.	2008	MATH	MATH140	2	10	5		3	1		7	28	17	60.7%	75.0%
200830	Sum.	2008	MATH	MATH190	6	9	3		1			1	20	18	90.0%	95.0%
200830	Sum.	2008	MATH	MATH70	34	14	13		5	3		18	87	61	70.1%	79.3%
200830	Sum.	2008	MATH	MATH80	28	46	29		4	6		32	145	103	71.0%	77.9%
200830	Sum.	2008	MATH	MATH90	58	54	54		16	13		74	269	166	61.7%	72.5%
200910	Fall	2008	MATH	MATH110	6	18	13		7	4		8	56	37	66.1%	85.7%
200910	Fall	2008	MATH	MATH112	6	10	14		2			2	34	30	88.2%	94.1%
200910	Fall	2008	MATH	MATH113	4	1	1			1		1	8	6	75.0%	87.5%
200910	Fall	2008	MATH	MATH114	15	17	2			1		5	40	34	85.0%	87.5%
200910	Fall	2008	MATH	MATH119	41	52	28		14	13		71	219	121	55.3%	67.6%
200910	Fall	2008	MATH	MATH122		6	1		2			6	15	7	46.7%	60.0%
200910	Fall	2008	MATH	MATH140	3	17	21		7	6		13	67	41	61.2%	80.6%
200910	Fall	2008	MATH	MATH150	2	5	5		2	1		5	20	12	60.0%	75.0%
200910	Fall	2008	MATH	MATH190	4	3	9		3	4		10	33	16	48.5%	69.7%
200910	Fall	2008	MATH	MATH192	7	21	8		5	2		6	49	36	73.5%	87.8%
200910	Fall	2008	MATH	MATH194	1	9	13		1	4		1	29	23	79.3%	96.6%
200910	Fall	2008	MATH	MATH230	5	6	10		4	1		3	29	21	72.4%	89.7%

200910	Fall	2008	MATH	MATH240	6		6		1	2		10	25	12	48.0%	60.0%
200910	Fall	2008	MATH	MATH40				53			9	6	68	53	77.9%	91.2%
200910	Fall	2008	MATH	MATH60				25			27	14	66	25	37.9%	78.8%
200910	Fall	2008	MATH	MATH70	40	68	112		18	45		58	341	220	64.5%	83.0%
200910	Fall	2008	MATH	MATH80	50	124	158		61	75	1	103	572	332	58.0%	82.0%
200910	Fall	2008	MATH	MATH90	71	85	163		87	148	2	218	774	319	41.2%	71.8%
200915	Win.	2009	MATH	MATH119	14	15	24		4	2		13	72	53	73.6%	81.9%
200915	Win.	2009	MATH	MATH140	6	8	11		1			8	34	25	73.5%	76.5%
200915	Win.	2009	MATH	MATH190	1	9	11		1			2	24	21	87.5%	91.7%
200915	Win.	2009	MATH	MATH70	48	30	16		4	7		19	124	94	75.8%	84.7%
200915	Win.	2009	MATH	MATH80	27	43	32		13	4		20	139	102	73.4%	85.6%
200915	Win.	2009	MATH	MATH90	37	60	75		19	20	1	60	272	172	63.2%	77.9%
200920	Spr.	2009	MATH	MATH110	3	14	19		11	2		4	53	36	67.9%	92.5%
200920	Spr.	2009	MATH	MATH112	4	6	15		3	3		8	39	25	64.1%	79.5%
200920	Spr.	2009	MATH	MATH114	21	18	1					10	50	40	80.0%	80.0%
200920	Spr.	2009	MATH	MATH119	42	61	55		15	29		55	257	158	61.5%	78.6%
200920	Spr.	2009	MATH	MATH122	4	1	1		1	3		7	17	6	35.3%	58.8%
200920	Spr.	2009	MATH	MATH140	12	7	8		6	7		24	64	27	42.2%	62.5%
200920	Spr.	2009	MATH	MATH150	2	8	7		2	2		8	29	17	58.6%	72.4%
200920	Spr.	2009	MATH	MATH170	5	3	4		1			4	17	12	70.6%	76.5%
200920	Spr.	2009	MATH	MATH190	6	10	20		2	4		11	53	36	67.9%	79.2%
200920	Spr.	2009	MATH	MATH192	2	6	6					22	36	14	38.9%	38.9%
200920	Spr.	2009	MATH	MATH194	4	3	6		4	9		10	36	13	36.1%	72.2%
200920	Spr.	2009	MATH	MATH210	3		19		7			1	30	22	73.3%	96.7%
200920	Spr.	2009	MATH	MATH220	6	4	10		3	1		2	26	20	76.9%	92.3%
200920	Spr.	2009	MATH	MATH40				32					32	32	100.0%	100.0%
200920	Spr.	2009	MATH	MATH60				26			19	10	55	26	47.3%	81.8%
200920	Spr.	2009	MATH	MATH70	36	76	98		34	39	1	132	416	210	50.5%	68.3%
200920	Spr.	2009	MATH	MATH80	48	95	93		31	54		128	449	236	52.6%	71.5%
200920	Spr.	2009	MATH	MATH90	14	41	170		103	107	2	249	686	225	32.8%	63.7%
200930	Sum.	2009	MATH	MATH119	14	32	16		10	10	1	17	100	62	62.0%	83.0%
200930	Sum.	2009	MATH	MATH140	6	3	10		4	2		10	35	19	54.3%	71.4%

200930	Sum.	2009	MATH	MATH60				28				1	29	28	96.6%	96.6%
200930	Sum.	2009	MATH	MATH70	36	39	32		2	5		24	138	107	77.5%	82.6%
200930	Sum.	2009	MATH	MATH80	27	29	35		7	19		24	141	91	64.5%	83.0%
200930	Sum.	2009	MATH	MATH90	59	61	62		24	23		36	265	182	68.7%	86.4%
					2146	3011	3908	282	1440	1956	175	4978	17896	9347		

Mathematics Program
Full Time Equivalent Faculty (FTEF)

Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
MATH 110	0.4	0.4	0.4	1.2	0.4	0.4	0.4	1.2	0.2	0.2		0.4					2.8
MATH 112	0.2	0.2	0.2	0.6	0.2	0.2	0.2	0.6	0.2	0.2		0.4					1.6
MATH 113	0.1	0.1	0.1	0.2													0.2
MATH 114	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.4	0.1	0.1		0.1					0.9
MATH 119			2.1	2.1			2.4	2.4			1.1	1.1			0.8	0.8	6.4
MATH 120	2.6	2.6		5.2	2.8	2.6		5.4	0.8	0.8		1.6	1.0	1.0		2.0	14.2
MATH 121		0.1		0.1	0.1	0.1		0.1									0.2
MATH 122			0.2	0.2	0.2	0.2	0.2	0.6									0.8
MATH 130		0.2		0.2													0.2
MATH 140	0.4	0.4	0.4	1.2	0.4	0.4	0.4	1.2	0.2	0.2	0.2	0.6	0.2	0.2	0.2	0.6	3.6
MATH 150	0.3	0.3	0.3	0.8		0.3	0.3	0.5						0.3		0.3	1.6
MATH 170							0.3	0.3									0.3
MATH 190	0.3	0.7	0.7	1.7	0.7	0.7	0.7	2.0	0.3	0.3		0.7		0.3	0.3	0.7	5.0
MATH 192	0.7	0.7	0.7	2.0	0.3	0.3	0.3	1.0						0.3		0.3	3.3
MATH 194	0.3	0.3	0.3	1.0	0.3	0.3	0.3	1.0									2.0
MATH 210					0.3	0.3	0.3	1.0									1.0
MATH 220					0.2	0.2	0.2	0.6									0.6
MATH 230	0.2	0.2	0.2	0.6													0.6
MATH 240	0.2	0.2	0.2	0.6													0.6
MATH 241	0.1	0.1		0.1													0.1
MATH 40		0.1	0.1	0.2	0.1		0.1	0.1									0.3
MATH 60	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.4			0.3	0.3	0.1			0.1	1.2
MATH 70	1.0	1.0	2.0	4.0	1.2	1.2	2.4	4.8	0.4	0.8	0.8	2.0	0.6	0.6	0.8	2.0	12.8
MATH 80	3.8	3.6	4.4	11.8	3.8	3.8	3.2	10.8	1.2	1.4	1.4	4.0	1.4	1.2	1.2	3.8	30.4
MATH 90	6.7	6.7	5.6	18.9	5.6	5.3	4.8	15.7	2.1	2.1	2.1	6.4	2.1	2.4	2.4	6.9	48.0
MATH 92		0.1		0.1													0.1

Total	17.5	18.0	18.1	53.6	16.9	16.6	16.7	50.2	5.5	6.1	5.9	17.5	5.5	6.3	5.7	17.5	138.9

Mathematics Program
Full Time Equivalent Student (FTEs)

Course	Fall				Spring				Summer				Winter				Grand Total
	2006	2007	2008	Total	2007	2008	2009	Total	2007	2008	2009	Total	2007	2008	2009	Total	
MATH 110	4.7	6.3	5.8	16.8	6.5	5.7	5.6	17.8	3.7	2.5		6.2					40.7
MATH 112	3.9	3.8	3.5	11.2	3.3	4.0	4.0	11.4	1.6	2.3		3.9					26.5
MATH 113	0.3	0.1	0.2	0.6													0.6
MATH 114	2.1	1.6	1.2	4.9	1.4	1.2	2.3	4.9	0.8	0.5		1.3					11.1
MATH 119			31.6	31.6			32.1	32.1			13.3	13.3			9.6	9.6	86.6
MATH 120	38.2	42.7		80.9	35.8	37.4		73.2	11.4	11.4		22.8	10.9	10.6		21.5	198.3
MATH 121		0.1		0.1	0.3	0.3		0.6									0.7
MATH 122			1.6	1.6	1.1	2.3	1.8	5.2									6.7
MATH 130		0.9		0.9													0.9
MATH 140	7.5	7.4	6.9	21.8	6.7	5.1	6.7	18.5	3.5	3.0	3.7	10.2	2.7	2.3	3.5	8.5	59.1
MATH 150	1.8	3.5	2.4	7.8		4.0	3.5	7.6						1.3		1.3	16.6
MATH 170							2.1	2.1									2.1
MATH 190	1.7	5.3	5.6	12.6	7.2	7.2	9.0	23.4	5.4	3.5		8.9		2.7	4.2	6.9	51.8
MATH 192	8.9	10.6	8.4	27.8	6.1	5.5	6.1	17.7						2.5		2.5	48.1
MATH 194	4.6	2.9	4.9	12.5	4.4	7.2	6.1	17.7									30.2
MATH 210					3.2	3.8	5.1	12.1									12.1
MATH 220					0.7	1.6	2.7	5.0									5.0
MATH 230	1.6	2.7	2.8	7.0													7.0
MATH 240	2.1	1.9	2.6	6.5													6.5
MATH 241	0.2	0.4		0.6													0.6
MATH 40		0.1	2.0	2.1	0.1		0.9	1.1									3.2
MATH 60	1.9	3.3	2.5	7.6	2.2	3.1	2.6	7.8			2.0	2.0	0.5			0.5	17.9
MATH 70	18.0	18.9	35.0	71.9	22.4	21.2	43.7	87.3	4.6	9.6	14.3	28.5	4.7	5.7	13.0	23.5	211.2

MATH 80	64.0	58.6	58.8	181.5	49.3	51.2	46.1	146.5	8.9	15.2	14.8	38.9	11.9	11.8	14.6	38.2	405.2
MATH 90	102.3	108.9	95.6	306.8	87.4	85.3	85.5	258.3	30.6	35.7	34.2	100.5	30.5	30.1	35.8	96.4	762.0
MATH 92		0.1		0.1													0.1
Total	263.7	280.0	271.5	815.2	238.3	245.9	266.1	750.3	70.6	83.7	82.3	236.5	61.1	67.0	80.6	208.8	2010.9

Mathematics Program
FTEs per FTEF

Course	Fall				Spring				Summer				Winter				Overall Avg.
	2006	2007	2008	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	2007	2008	2009	Avg.	
MATH 110	11.7	15.8	14.5	14.0	16.3	14.2	14.0	14.8	18.4	12.6		15.5					14.5
MATH 112	19.3	18.9	17.6	18.6	16.6	20.2	20.2	19.0	7.9	11.6		9.7					16.5
MATH 113	5.0	1.4	3.0	3.1													3.1
MATH 114	15.5	12.1	9.0	12.2	10.4	9.2	17.1	12.2	12.3	7.5		9.9					11.9
MATH 119			14.8	14.8			13.4	13.4			12.5	12.5			12.0	12.0	13.5
MATH 120	14.7	16.4		15.6	12.8	14.4		13.6	14.3	14.2		14.2	10.9	10.6		10.7	14.0
MATH 121		2.1		2.1	4.9	4.1		4.5									3.7
MATH 122			7.8	7.8	5.7	11.4	8.8	8.6									8.4
MATH 130		4.7		4.7													4.7
MATH 140	18.7	18.5	17.4	18.2	16.8	12.7	16.8	15.5	17.3	15.2	18.4	17.0	13.7	11.6	17.3	14.2	16.4
MATH 150	6.9	13.3	9.1	9.8		15.1	13.3	14.2						4.7		4.7	10.4
MATH 170							7.8	7.8									7.8
MATH 190	5.1	7.9	8.4	7.6	10.8	10.8	13.6	11.7	16.3	10.5		13.4		8.0	12.6	10.3	10.4
MATH 192	13.3	15.9	12.5	13.9	18.4	16.4	18.4	17.7						7.5		7.5	14.4
MATH 194	13.8	8.7	14.8	12.5	13.3	21.5	18.4	17.7									15.1
MATH 210					9.7	11.3	15.4	12.1									12.1
MATH 220					3.6	7.8	13.5	8.3									8.3
MATH 230	7.8	13.5	14.0	11.7													11.7
MATH 240	10.4	9.3	13.0	10.9													10.9
MATH 241	2.7	5.7		4.2													4.2
MATH 40		1.7	14.8	10.4	1.8		14.1	8.0									9.5

MATH 60	14.1	24.5	18.6	19.1	16.4	23.0	19.2	19.5			7.6	7.6	3.5			3.5	14.9
MATH 70	18.0	18.9	17.5	18.0	18.7	17.7	18.2	18.2	11.6	12.0	17.8	14.2	7.9	9.6	16.3	11.8	16.5
MATH 80	16.9	16.3	13.4	15.4	13.0	13.5	14.4	13.6	7.4	10.9	10.5	9.7	8.5	9.8	12.1	10.1	13.3
MATH 90	15.3	16.3	17.1	16.2	15.6	16.0	17.8	16.4	14.3	16.7	16.1	15.7	14.3	12.6	14.9	13.9	15.9
MATH 92		1.7		1.7													1.7
Avg.	15.1	15.6	15.0	15.2	14.1	14.8	15.9	14.9	12.8	13.6	14.0	13.5	11.2	10.6	14.1	11.9	14.5

3. Present student learning or service area outcomes data that demonstrate the program's continuous educational and/or service quality improvement. Include the following standard information and metrics as well as additional program specific metrics, if any.

   List the program level outcomes, goals or objectives and show how these support the Institutional Student Learning Outcomes. Identify the method(s) of assessment used for each of the program level outcomes. Provide a summary of the outcome data for the program, including course and program level data as appropriate.

SLOs were identified for all of our courses during 2008-2009. Data collection began in the fall of 2008.

4. Analyze the data presented visually (graphs, diagrams, etc.) and verbally (text) as appropriate, present any trends, anomalies, and conclusions. Explain the program's success or failure in meeting the objectives presented above in item one. Explain the ways that the program utilized the student learning or service area outcome data presented in item three to improve the program (changes to curriculum, instructional methodology, support services, etc.)

Enrollment Data: Our fall enrollment increased sharply between 2006 and 2007 but decreased to 2006 levels in 2008. The most noticeable decrease was in Math 90, from 877 to 771. This was due to the implementation of our new policy on prerequisites. There was a smaller, but across the board decrease in our transfer level courses, most likely due to the same reason. Our spring enrollments, on the other hand, showed rising trend all three years. The most noticeable increase was from Sp08 to Sp09 (2196 – 2386). Our Sp08 enrollment was 84% of our enrollment in the previous fall, while our Sp09 enrollment was 98% (!) of the previous fall. There was a strong increase in our Math 70 enrollment in 08-09, due to our new testing requirements. Now matter how low we set the bar for our entry-level math course, students *will* test into it. This change of ratios from fall to spring was directly observable in our developmental classes. While it is too early to be certain, the indications are that forcing students to take the class they test into will raise our persistence rates. A noticeable decrease (~40%) occurred in our statistics course, as we moved from Math 120 to the new Math 119. This was expected and desirable, as statistics should really be for those whose majors specifically require it, not for those seeking a generic transfer level class. The year 08-09 also saw an increase in enrollment in our 200 level math courses. This most likely reflects the effect of the economy on admission policies at UC and CSU schools.

Fill Rates: As the new testing policies have altered the status quo, we have had to anticipate (guess) who they would affect the optimal amount of courses offered in the transfer level classes and its resultant effect upon fill rates. We doubled the number of sections offered in Math 70 during 2008-09 without any observable change in fill rates. We decreased our number of sections of Math 90 by 17% in 08-09, and saw our fill rate increase to a rather uncomfortable 127% in Sp09. This bears watching. In order to double our sections of Math 70, we had to pull resources from somewhere else in the department, or increase staffing. In 09-10, we are operating at full-time instructor BELOW our 07-09 levels, so hard choices are being made. The fill rates for the remainder of the department show a general rising trend.

Success: In Fall of 2008, we saw a sharp increase in success rates for all of our developmental classes. After hovering at 35% for two years, Math 90 went up to 41%. Math 70 saw an increase from about 50% in 2006-08 to 64%. Math 80 went from the low 40"s to 58%. If the data stopped there, I would call our new procedures a walloping success. Alas, in Math 70 and Math 90, our data shows a return to historical norms in spring of 2009. In Math 80, we were able to hold onto a fair measure of increase, with a success rate of about 53%. We are very interested in finding out what happened here. It involves data sets too large for random chance to be very likely. It is possible that shifts in our common testing procedures between the Fall and Spring 2008-09 maybe the issue. It is urgently necessary to see the Fall 2009 data at our earliest convenience. A departmental conversation on how the two semesters differed is very much in order. The success rates of the remainder of our classes show the random fluctuations common in small data sets. There are some isolated spikes in the transfer level areas

that most likely are professor-dependant. We need to research on who taught those classes and take a closer look at their methods and policies.

Retention Rates: We saw a general increase in our retention rates in the developmental classes over the period. In Math 90 we saw an increase from 59% in 2006-08 to 68% in 2008-09. In Math 70 and Math 80 we saw a repeat of the earlier trend; A strong increase in Fall 2008 compared to the previous two years, and then a leveling in the spring. As with success rates, the retention rates of the transferable courses show random fluctuations over the period.

Units per Class: We offer Math 70 and Math 80 as 3-unit classes and Math 90 as a 4-unit class. The statewide norms for those classes are 4,4 and 5 respectively. Our success rates in those classes cannot help but be affected by this discrepancy. This has to be addressed at some point in the future.

Final Thoughts on Success and Retention: Looking at a snapshot of the Fall 2004 semester, it is clear that the success rate in M90 has dropped since we instituted the Saturday final. The Saturday final is not a foolproof testing procedure but we feel it has given us a more honest assessment of student learning in that course. The success rates for Math 70 & Math 80 in 2004 are essentially the same as they are now. One may speculate that they too would drop if we instituted Saturday finals for them. In a time of accreditation concerns, it is also a matter of institutional integrity as to how we address these issues. Math 190 has seen a considerable increase in success rate since that time. We began Math 140 in Fall 2005 as a corrective measure to Math 190's miserable rate and it has succeeded: we have seen an increase of roughly 20%.

FTES/FTEF. We have seen a small increase in this ratio over the last three years.

B. PRESENT: Snapshot of the State of the Program in the Current Semester: Fall 2009

1. Give a verbal description of the program as it exists at the present time. Include information on current staffing levels, current student enrollments, student learning or service area outcome implementation, number of majors, and/or other data as appropriate.

Staffing: Currently we have 9 full-time math professors. We also share a professor with physics and another with computer science. This is the rough equivalent of a tenth professor. One full-time professor has 9 units of release time to be the coordinator. We have a number of adjunct professors at the main and external campuses, teaching a variety of loads. We lost two full-time professors to retirement and had a full-time temporary position in 08-09. Two of these three vacancies were replaced, one by the District fund and one by BSI fund. We have one less teaching professor than during 2008-2009 and we need that position to be replace to meet the staffing demand.

Student Learning Outcomes: As of Spring 2008, we had the then required one SLO for all of the math curriculum. At the moment we have the required one SLO per credit unit for all of our courses with the exception of Math 150, Math 170, Math 210, and Math 220. With the exception of Math 150, these courses are offered only in the spring semester and will be addressed this coming spring. We began collecting data this fall for the original one SLO in each course offered this fall. By the Fall of 2010 we will have sufficient data to make decisions about the effect of the SLO on our curriculum.

2. Verbally describe any outside factors that are currently affecting the program. (For example: changes in job market, changing technologies, changes in transfer destinations, etc.)

The economy is affecting the department in a number of ways. We are unable to offer as many sections of the Math 90 as we would like. We are also seeing a spike in advanced students as well, as the economy drives them back home. The opening day turnout the last two years has forced us to consider whether we need to offer two sections of Math 192 and Math 194. We have had a turnout of over 50 students. That is border line. If we get the turnout numbers in the 60 range then it is clear that we need two sections. We simply do not have the staffing to handle this.

As we move into the 2700 building we have improved our infrastructure a great deal. A lot depends on access to classrooms in the building. The Math Department was informed by the Vice President for Academic Services that the Math Department has the second priority to use the classrooms in the new science building and the Science Department has the first priority. So since the Math Department has adequate access to those classrooms, we will have sufficient technological capabilities for the foreseeable future.

3. List any significant issues or problems that the program is immediately facing.

The major issues facing the department at this time are:

1. Another full-time tenure-track professor to return to department to its 2008-2009 staffing levels.
2. Moving the Math Lab to a centralized location.
3. Adding a designated classroom for Computer Science and hybrid math classes.
4. Upgrading computers (desktop or laptop) for the full-time staff.
5. Increasing contact hours for students in our developmental courses.

C. FUTURE: Program Objectives for the Next Three Academic Years: 2009-10, 2010-11, 2011-12

1. Identify the program objectives for the next three academic years, making sure these objectives are consistent with the college's Educational Master Plan goals. Include how accomplishment is to be identified or measured and identify the planned completion dates. If any objectives are anticipated to extend beyond this three-year period, identify how much is to be accomplished by the end of this review period and performance measures.

1. Develop and offer a third basic skills course featuring basic mathematics.

a. Develop the course in 2010-2011, including changes in the course outline of our pre-existing Math 70.
b. Offer the course, beginning in the Fall of 2011.

2. Add a mandatory one unit lab component to all non-transferable courses.

a. Develop the course in 2010-2011, including changes in the course outline of our pre-existing Math 70.
b. Offer the course, beginning in the Fall of 2011.

3. Expand access to courses for IVC students.

a. Hire an additional full-time tenure-track instructor to serve basic skills and transfer level classes by Fall 2011.

4. Expend or locate a dedicated classroom for Computer Science and hybrid math classes.

   a. To open in 2011-2012.

2. Identify how student learning or service area outcomes will be expanded and fully implemented into the program. Include a progress timeline for implementation and program improvement.

Beginning in the Spring of 2010, we will be collecting data on all of the SLOs we have created. Beginning in the Fall of 2010, we will be assessing and evaluating the data and making recommendations for modifications of curriculum based on SLO data.

3. Identify any resources needed to accomplish these objectives. Identify any obstacles toward accomplishment and the plan to surmount these obstacles.

Adding a unit to the developmental courses will add approximately 50 semester hours to our schedule. That is the equivalent of 3 fulltime professors. This is wildly unreasonable in this economy. At some time we will have to bite the bullet. We are trying to offer developmental classes with 1-2 semester hours per class less than the state average.

4. Identify any outside factors that might influence your program during the next three years.

The economy, the economy, the economy. We most likely will be unable to change our staffing levels and unable to significantly alter our curriculum in the developmental classes (i.e. add units) during this time frame. In the current budget scenario, it is unlikely that we can meet all of our identified community needs, but instead will have to make tough but intelligent choices about priorities.