

Bakersfield College

Program Review – Annual Update

Attachments (place a checkmark beside the forms listed below that are attached):

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| <input checked="" type="checkbox"/> Faculty Request Form | <input type="checkbox"/> Classified Request Form | <input type="checkbox"/> Budget Change Request Form |
| <input checked="" type="checkbox"/> ISIT Form | <input checked="" type="checkbox"/> M & O Form | <input checked="" type="checkbox"/> Best Practices Form (Required) |
| <input type="checkbox"/> Other: _____ | | |

I. Program Information:

Program Name: Business Management and Information Technology (COMS Side)

Program Type: Instructional Non-Instructional

Program Mission Statement:

The Computer Studies side of the Business Management and Information Technology Department strives to promote and enhance the economic development of the community; to facilitate lifelong learning opportunities and academic excellence through course content, application, and technology; to serve diverse populations with a sense of worth and dignity; to establish work ethics relative to a positive work environment; to meet workforce needs through skills development, training, and personal growth; and to communicate a sense of vision and renewal through a creative utilization of productive and innovative resources.

Program Description: Describe how the program supports the mission of Bakersfield College

The degrees and certificates in the BMIT-COMS department meet the College's core mission areas by providing two of the three: career and technical education and transfer courses.

Degrees and Certificates: List the degrees and/or Certificates of Achievement awarded by the program, if applicable.

We are finishing a complete overhaul of our curriculum so that we might better serve our stakeholders.

Our current offerings are:

- Computer Information Systems (CA, AA, AS)
- Computer Science (CA, AS)
- Web Development (CA, AS)

Our new offerings will be:

- Computer Science (AS-T)
- Web Development (CA)
- CompTIA (CA)
- Software Development (CA)

II. Program Assessment:

- a. How did your outcomes assessment results inform your program planning?

While we did do assessments in our Web Development program, the results did not inform our program planning. We have spent the better part of the last year discussing and redesigning our entire curriculum to adapt to the realities of our student population, external and internal environmental factors, the renewed emphasis on CTE programs, and the emphasis placed by the state on the development of TMC. Because we have started from the ground up redesigning our course offerings and programs, we plan to start fresh with a much more robust and integrated assessment plan.

- b. How did your outcomes assessment results inform your resource requests this year?

They did not. The complete redesign of our curriculum has. We have reduced our “programs” from four degrees to a single AS-T, and three Certificates of Achievement (two of the three are new). Our analysis of our student population, along with the low number of graduates in our degree programs, required a drastic change that emphasizes CTE skill sets leading to COAs. To address transfer students, and to support our local CSU, we have also developed the AS-T in Computer Science.

- c. Note any significant changes in your program’s strengths since last year.

We are reducing the number of articulation agreements with local high schools out of necessity. Single subject application courses are unsustainable during this economic climate and we have eliminated most from our catalog.

It is expected that the curriculum changes will strengthen our programs and dramatically increase the number of students who successfully complete our programs.

- d. Note any significant changes in your program’s weaknesses since last year.

- Our existing degrees and certificates require too many units to complete. This is one of the factors contributing to their redesign.
- We have insufficient staffing and adjunct pools to offer all of the advanced classes required for our degrees.
- Technology resources prevent us from teaching the newest software and hardware across the board.

- e. If applicable, describe any unplanned events that impacted your program.

We were met with unplanned resistance to our proposed curriculum changes, which has been a significant setback. This has stifled our ability to complete the Curricunet changes required by the substantial overhaul to our programs. This in turn will impede our student’s ability to begin their progression through our new programs.

Also, while we are grateful for the building renovations and the lab upgrades that occurred over the summer, the perceived lack of planning, communication and coordination for these projects caused numerous problems

at the start of the fall semester. We commend campus staff for their efforts in salvaging what could have been a complete disaster.

III. Technology and Facilities Analysis

- a. Has your program received new or repurposed technology in this cycle?

Yes. We received updated projectors and sound systems in some of the classrooms as part of the Business Education building upgrades over the summer. Our B-11 and B-2 computer labs were upgraded with new computers and furniture.

- i. If yes, how have you assessed the outcome of the use of that technology and its effectiveness as it relates to student outcomes?

No, it is too soon to tell. We've only had four weeks of use.

- ii. If no, what technology could play a contributing factor in future student success and outcomes for your program? How would you evaluate the use of this technology?

- iii. How might other areas use this technology?

For basic computer use, in a similar fashion as we do.

As a general statement on this "technology" section as it applies to BMIT - COMS, we offer the following:

Technology is our subject matter. Asking us if we have received technology, or if technology relates to student outcomes, is like asking the Agriculture department if they received any new plants, animals or dirt this last year, and if those things helped their students succeed.

To be more successful in our teaching of technology as subject matter, we will need to continually update both hardware and software, in several different labs across campus. Most of the technology (both software and hardware) that we need is specific to our subject matter, and therefore not of any value to the rest of the campus, much like the hydraulic car lift in the auto shop is not frequently used by the English department.

For that matter, as it is a direct need for our instruction, and a massive part of our subject matter, should our technology requests be the purview of the ISIT committee? Does the ISIT committee approve purchases such as the laser cutter in the Engineering Department? I'm sure they don't, although it is connected to a computer, and clearly in the "technology" category.

The bottom line is this: To maintain high quality programs for our students, and to transfer students who can succeed at any 4-year school, or to graduate students who will be leaders in their job sector, we need a constantly-updated set of technology tools, which are highly specialized and not useful to all disciplines. This doesn't affect student success in the way we define it at BC, but it certainly affects their success when they leave our campus for work or higher levels of education.

(NOTE: Technology requests can be made by filling out the [ISIT Request form](#).)

- b. Has your area received any facilities maintenance, repair or updating in this cycle? If yes, how has the outcome contributed to student success?

Yes, the building (Business Education) used by most of the classes in this program was refurbished with new paint, flooring, and some furniture. The restrooms were also slightly updated. The building's appearance is markedly changed and the rooms are brighter and cleaner. The floors no longer have holes in which students' chairs would become stuck. It would be difficult to measure student success as a direct result of these improvements, but the atmosphere is significantly improved.

(NOTE: Facilities and M&O requests can be submitted by completing the [M&O request form](#))

IV. Trend Data Analysis:

Discuss any significant changes in data trends over the last year using data provided by Institutional Research. Metrics may include the following:

- a. Changes in student demographics (gender, age and ethnicity)

No significant changes (5% or more) exist in the trend data

- b. Changes in enrollment (headcount, sections, course enrollment and productivity)

The number of sections offered increased in the last year from 78 to 82, but this is still a drastic reduction from the 107 sections offered in 2008-09.

FTEs increased slightly from 233.5 to 241.7.

Our FTEF/FTEs decreased from 16.0 to 14.9. This can be explained by our renewed enforcement of dropping non-participating students prior to census date and not having to replace those that have been dropped. The large number of courses that we offer that are limited to our smaller lab sizes explains the difference between our 14.9 ratio compared to the college-wide ratio of 17.9. We plan to revert our COMS B3 course back to the large lecture/small lab configuration that was originally intended. We should also see an increase in these ratios as a result of the lab remodels that occurred over the summer. The B2 lab workstations increased from 25 to 34. The B11 lab workstations increased from 30 to 40.

- c. Success and retention for face-to-face, as well as online/distance courses

Our retention rate improved a fair amount from 78.6% to 83.9%. Our success rate slightly improved from 60.8% to 61.4%.

- d. Degrees and certificates awarded (five-year trend data for each degree and/or certificate awarded)

Our degrees and certificates remain low. This is one of the primary reasons for the curriculum changes that we have implemented.

e. Other program-specific data *(please specify or attach)*

V. Progress on Program Goals:

List the program’s goals from the previous Program Review. For each goal, please discuss progress and changes. If the program is addressing more than two (2) goals, please duplicate this section.

Previously Established Goal 1: *(state goal)*

Completion of revision of the Computer Science, Computer Information Systems, and Web Development programs

Progress on Goal:

Completed: 9/22/13 (Date)

Revised: _____ (Date)

Comments on Goal 1:

The basic redesign of our programs is complete, but we are STILL waiting on a key decision to be made (one that we thought was resolved last April) that will allow us to complete the Curricunet updates. We have decided to change our course identifier from COMS to COMP. We are doing this for several reasons:

1. To eliminate the confusion our students have between COMS and Communication Studies courses.
2. To eliminate the confusion that transfer schools had with what COMS stood for
3. To align our course identifier with the C-ID identifier

Previously Established Goal 2: *(state goal)*

Study of student population to address concerns about the accuracy of the data in the BMIT majors

Progress on Goal:

Completed: _____ (Date)

Revised: _____ (Date)

Comments on Goal 2:

Graduates from the Computer Studies side of BMIT are only counted in the statistics collected by the state and federal government if they work directly for a computer technology company. Graduates who work in other areas, such as, government, agriculture, energy, and manufacturing, who are also doing the SAME TYPE OF WORK that they would do in a computer technology company, are not included in the statistics.

We have made no progress in eliminating this inaccuracy other than continuing to educate decision makers to this flaw in the system.

VI. Curricular Review (Instructional Programs only):

- a. List each of the courses offered within the discipline’s academic program in the first column, using one row per course. Place an **X** in the appropriate column to indicate when the course is scheduled for review.

***** CTE courses are required to be reviewed every two years. We will repeat the pattern indicated below for succeeding years.**

Course	2013-2014 (2019-2020)	2014-2015 (2020-2021)	2015-2016 (2021-2022)	2016-2017 (2022-2023)	2017-2018 (2023-2024)	2018-2019 (2024-2025)
COMS B2 - Intro to Computer Information Systems	X					
COMS B3 - Computer Concepts & Survival Skills	X					
COMS B5 - Introduction to Microsoft Office 2010		X				
COMS B14 – Java		X				
COMS B25 - Programming with C		X				
COMS B35 - OOP & Data Structures with C++		X				
COMS B34 - SQL & Database Design		X				
COMS B41 – Introduction to Linux		X				
COMS B74a - Dreamweaver		X				
COMS B74b - HTML		X				
COMS B74c - JavaScript		X				
COMS B75c - PHP		X				
COMS B82 - CompTIA		X				

Network +						
COMS B100 - Computer Hardware		X				

b. List courses that are proposed for addition.

COMP B14 - Discrete Structures
 COMP B84 - CompTIA Security +
 COMP B72 - Applied Software Design

c. List courses that are proposed for deletion.

COMS B32 - Visual Basic
 COMS B37 - Visual Basic GIS
 COMS B51 - Assistive Technologies
 COMS B54 - Intro to OpenOffice
 COMS B74e - Int. Dreamweaver
 COMS B77b - GIS spatial analysis
 COMS B87 - Remote Sensing
 COMS B101 - Web Systems and Security
 COMS B110 - Internship Course
 COMS B201 - Computer Skills Development

d. List any changes the program has made to online/hybrid/distance education courses.

No changes

e. Provide an update on the program's transition to adopting a [Transfer Model Curriculum](#) (AA-T or AS-T), if applicable.

The details outlining the TMC and the substantial changes being made to the rest of our program changes are listed starting on the next page.

Proposed changes to degrees, Certificates of Achievement (COA), and CTE courses for BMIT - Computer Studies group

We are reducing our “programs” from four Associate degrees and three Certificates of Achievement to one AS-T and three COAs (the AS-T and two of the COA’s are new).

Proposed Degree and COA

AS-T in Computer Science - 28 Units

Current BC Descriptor	Current BC Course Description	New BC Descriptor and/or C-ID Info	New BC Course Description	Notes
COMS B14	Introduction to Programming with Java	COMP B11 (C-ID COMP 122 Programming Concepts I)	Programming Concepts I	Light revision
COMS B25 COMS B35	Programming with C OOP and Data Structures with C++	COMP B12 (C-ID COMP 132)	Programming Concepts II	Combination, with revisions, of two existing courses
COMS B27	Introduction to Assembly Language	COMP B13 (C-ID COMP 142) COMP B14 (C-ID COMP 152)	Computer Architecture & Organization Discrete Structures	Revision New Course
MATH B6a	Analytic Geometry and Calculus I	(C-ID Math 211 Single Variable Calculus I – Late Transcendentals)		Existing Course
MATH B6b	Analytic Geometry and Calculus II	(C-ID Math 221 Single Variable Calculus II – Late Transcendentals)		Existing Course
PHYS B4a	Mechanics and Wave Motion	PHYS 205 Calculus- Based Physics for Scientists and		Existing Course

PHYS B4b	Heat, Electricity, and Magnetism	Engineers: A PHYS 210 Calculus- Based Physics for Scientists and Engineers: B	Existing Course
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CoA in Web Development - 18 Units

Required courses - 12 units

Current BC Descriptor	Current BC Course Description	New BC Descriptor and/or C-ID Info	New BC Course Description	Notes
COMS B74a	Dreamweaver	COMP B91		Existing Course
COMS B74b	HTML / CSS	COMP B92		Existing Course
COMS B74c	JavaScript	COMP B93		Existing Course
COMS B75c	PHP	COMP B94		Existing Course

Electives - 6 Units

COMS B2 or COMS B3	Introduction to Computer Information Systems OR Computer Concepts and Survival Skills	COMP B2 or COMP B3 (C-ID ITIS 120 and BUS 140)		Existing courses – see Curriculum Changes Recap
COMS B10	Python	COMP B10 (C-ID COMP 112)	Introduction to Programming Methodologies using Python	Existing Course (light revision and addition of 1 unit)
COMS B34 COMS B14	SQL and Database Systems Design Introduction to Programming with Java	COMP B21 COMP B11 (C-ID COMP 122 Programming Concepts I)	Programming Concepts I	Existing Course Light revision

CoA - CompTIA - 18 Units (New Certificate)

Required Courses - 12 Units

COMS B41	Introduction to Linux	COMP B31	COMPTIA Linux +	Existing Course
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COMS B82	COMPTIA Network +	COMP B82		Existing Course (light revision)
COMP B100	Computer Hardware Diagnostics	COMP B83	COMPTIA A+	Existing Course (light revision)
		COMP B84	COMPTIA Security +	New Course

Electives - 6 Units

COMS B2 or COMS B3	Introduction to Computer Information Systems OR Computer Concepts and Survival Skills	COMP B2 or COMP B3 (C-ID ITIS 120 and BUS 140)		Existing courses – see Curriculum Changes Recap
COMS B10	Python	COMP B10 (C-ID COMP 112)	Introduction to Programming Methodologies using Python	Existing Course (light revision and addition of 1 unit)
COMS B74b COMS B14	HTML / CSS Introduction to Programming with Java	COMP B92 COMP B11 (C-ID COMP 122 Programming Concepts I)	Programming Concepts I	Existing Course Light revision
COMS B34	SQL and Database Systems Design	COMP B21		Existing Course

CoA - Software Development - 18 Units (New Certificate)

Required Courses - 12 Units

COMS B10	Python	COMP B10 (C-ID COMP 112)	Introduction to Programming Methodologies using Python	Existing Course (light revision and addition of 1 unit)
COMS B14	Introduction to Programming with Java	COMP B11 (C-ID COMP 122 Programming Concepts I)	Programming Concepts I	Light revision
COMS B34	SQL and Database Systems Design	COMP B21 COMP B72	Applied Software Design	Existing Course New Course

Electives - 6 Units

COMS B74a	Dreamweaver	COMP B91		Existing Course
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COMS B74b	HTML / CSS	COMP B92	Existing Course
COMS B74c	JavaScript	COMP B93	Existing Course
COMS B75c	PHP	COMP B94	Existing Course
COMS B41	Introduction to Linux	COMP B31	Existing Course
		COMP B84	COMPTIA Linux + COMPTIA Security New Course
			+

Long-Term Planning:

CoA - Office Computing Skills (or something similar to further integrate COMP with Business)

Potential Courses:

COMS B5	Introduction to Microsoft Office 2010	COMP B5	Introduction to Microsoft Office	Existing Course
		COMP ??	MS Office Business Integration & Automation	New Course
		COMP ??	Computer User Support and Soft Skills	New Course
BSAD B65	Principles of Organizational Communication			Existing Course
COMP B100 Others	Computer Hardware Diagnostics	COMP B83	COMPTIA A+	Existing Course (light revision)

Course Numbering Scheme:

We have arranged our course numbers by degree/COA in groups to make things easier on students.

The following are the general groupings:

- Under 10 - General, basic courses (leaves 2, 3, 5 the same)
- 10s - AS-T courses
- 20s - Software Development
- 30s - CompTIA

40s - Web Development

The goal is to have, where possible, maximum transferability with course numbers being under 50. We will add 50 to the number and stay with the same pattern in cases where transfer cannot be achieved, i.e.:

70s - Non transfer Software Dev.

80s - Non transfer CompTIA

90s - Non transfer Web

This will leave the 50s for future development and allow for expansion in the programs as well.

Curriculum Changes Recap

- all new and remaining courses will have the course identifier of COMP
- **Deleted last year** in the notes column indicates that the course was deleted last year and is not included in the new 2013/2014 catalog
- **To Delete** in the notes column indicates that the course will be deleted this year and will not be included in the 2014/2015 catalog

Current Course	Notes
<p>COMS B2 - Intro to Computer Information Systems</p> <p>and</p> <p>COMS B3 - Computer Concepts & Survival Skills</p>	<ul style="list-style-type: none"> • Existing courses that may be modified/ combined to align with <p>C-ID ITIS 120: Computer Information Systems/Business Information Systems</p> <p>OR</p> <p>C-ID BUS 140: Business Information Systems, Computer Information Systems</p> <p>while still satisfying the goal of one course for sciences and one course for all others.</p> <p>At a minimum we plan to modify COMS B3 to go to a large lecture (forum), small lab configuration as was originally planned for the course</p> <ul style="list-style-type: none"> • Identifier changes: COMP B2, COMP B3
<p>COMS B5 - Introduction to Microsoft Office 2010</p>	<ul style="list-style-type: none"> • Identifier change: COMP B5 • Title change: Introduction to Microsoft Office
<p>COMS B10 - Introduction to Structured Programming using Python</p>	<ul style="list-style-type: none"> • Identifier change: COMP B10 (aligns with C-ID COMP 112) • Title change: Introduction to Programming Methodologies using Python • Increase to 3 units
<p>COMS B14 – Java</p>	<ul style="list-style-type: none"> • Identifier change: COMP B11 • Title change: Programming Concepts & Methodologies I (possibly add USING JAVA)

COMS B16 Cobol	Deleted last year
COMS B25 - Programming with C COMS B35 - OOP & Data Structures with C++	<ul style="list-style-type: none"> Combine courses into one Identifier change: COMP B12 (aligns with C-ID COMP 132) Title change: Programming Concepts & Methodologies II (possibly add USING C & C++)
COMS B27 - Introduction to Assembly Language	<ul style="list-style-type: none"> Identifier change: COMP B13 (aligns with C-ID COMP 142) Title change: Computer Architecture and Organization (possibly add USING Assembly Language)
COMS B32 Visual Basic	To Delete
COMS B34 - SQL & Database Design	<ul style="list-style-type: none"> Identifier change: COMP B21
COMS B37 GIS	To Delete
COMS B41 – Introduction to Linux	<ul style="list-style-type: none"> Identifier Change: COMP B31 Title Change: CompTIA Linux+
COMS B51 - Assistive Technologies	This may be deleted.
COMS B52a Intro to Windows	Deleted last year
COMS B53 Intermediate MS Office	Deleted last year
COMS B54 Intro to OpenOffice	To Delete
COMS B57a Intro to Word	Deleted last year
COMS B61 Ecommerce	Deleted last year
COMS B62a Intro to Excel	Deleted last year
COMS B68a Intro to Access	Deleted last year
COMS B70a Intro to Powerpoint	Deleted last year
COMS B73 Intro to the Internet	Deleted last year
COMS B74a - Dreamweaver	<ul style="list-style-type: none"> Identifier Change: COMP B91
COMS B74b - HTML	<ul style="list-style-type: none"> Identifier Change: COMP B92
COMS B74c - JavaScript	<ul style="list-style-type: none"> Identifier Change: COMP B93
COMS B74e Int. Dreamweaver	To Delete
COMS B74f Adv. Dreamweaver	Deleted last year
COMS B75a Data Driven Sites	Deleted last year
COMS B75b Active Server Pages	Deleted last year
COMS B75c - PHP	<ul style="list-style-type: none"> Identifier Change: COMP B94
COMS B75d ColdFusion	Deleted last year

COMS B75e Ruby on Rails / AJAX	Deleted last year
COMS B76a Intro to Flash	Deleted last year
COMS B76b Advanced Flash	Deleted last year
COMS B77 ArcGIS-1	Deleted last year
COMS B77b GIS spatial analysis	To Delete
COMS B78 Adv. ArcView GIS	Deleted last year
COMS B79 Adv. Visual Basic	Deleted last year
COMS B82 - CompTIA Network +	<ul style="list-style-type: none"> Identifier Change: COMP B82
COMS B87 Remote Sensing	To Delete
COMS B91 MCSE Server 2003	Deleted last year
COMS B92 Windows 2000 Pro.	Deleted last year
COMS B93 - Active Directory	This may become an elective in the CompTIA COA. Otherwise it will be deleted.
COMS B95 MCSE - TCP/IP	Deleted last year
COMS B96 Applied Linux	Deleted last year
COMS B100 - Computer Hardware	<ul style="list-style-type: none"> Identifier Change: COMP B83 Title Change: CompTIA A+
COMS B101 Web Systems and Security	To Delete
COMS B110 - Internship Course	To Delete
COMS B201 - Computer Skills Development	To Delete
* COMP B14 - Discrete Structures	<ul style="list-style-type: none"> New course required for AS-T COMP B14 aligns with C-ID COMP 152
* COMP B84 - CompTIA Security +	<ul style="list-style-type: none"> New course required for COA
* COMP B72 - Applied Software Design	<ul style="list-style-type: none"> New course required for COA

VII. Conclusions and Findings:

Present any conclusions and findings about the program.

The faculty in the Computer Studies side of BMIT have reevaluated our mission and are well on our way to completing a dramatic redesign of our curriculum that responds to community needs. We believe this will benefit our students in a way that will allow them to receive the skill sets that the marketplace requires. We have also embraced the TMC and created the necessary curriculum to implement the AS-T in Computer Science. We are also working towards designing systems that will allow us to more easily measure our outcomes. We hope that this will be apparent in the next program review.