ANNUAL PROGRAM REVIEW

NAME OF PROGRAM/DEPARTMENT/SERVICE AREA: BIOLOGY/ANATOMY

NAME OF PERSON SUBMITTING THIS REVIEW: Anna Thompson

DATE OF SUBMISSION: 10-15-2010

MANAGEMENT AREA (check one):

- ☐ Administrative Services
- X Instruction
- ☐ Student Services

ASSESSMENT OF PAST PROGRESS

Describe your progress on your previous year's objectives:

Objective 1:	Summary of Progress:
Bring more stability in terms of faculty to BIOL 100 (Concepts in Biology) and BIOL 110 (Human Anatomy)	
Enrollment in BIOL 100 course has increased even more dramatically with 80 students being enrolled in Fall 2009. Currently, for Spring 2009 the plan is to keep class size for BIOL 100 at 60 students. However, traditionally, in the spring semesters, enrollment in Biology 100 has always been higher than in the fall. Potentially a lot more than 60 students will need the course to graduate. It is unclear whether funding for increasing class size as might become necessary is available.	This objective has been achieved with the hiring of Billy Ogle as the BIOL 100 Instructional Assistant. It's added a lot of stability to the course to have the same Instructional Assistant rather than hiring a different student worker for this position every semester or every year. This way we have been able to offer the course to over 80 students every semester.
ISP also plans to teach BIOL 100 to a rather large cohort in the Spring 2010.	This cohort was taught successfully by Michelle Fulton.
Due to the Health and Exercise Studies Program, an additional section of BIOL 110, Human Anatomy, has been needed since Fall 2008, but the 0-/09 instructor, Dr. Rachel Hurlburt, requested a one-semester break from teaching for Fall 2009.	This was solved for the Spring 2010 semester by changing the schedule for Jim Cross, thus enabling him to teach the additional section. For the Fall 2010 the college hired Dan Smith to teach the course. Dan is currently going through the evaluation process.
I think the biology department is at a point where it is necessary to consider hiring an additional FT Biology Instructor for Human Anatomy and Physiology (2 courses) as well as for load in non-majors biology (BIOL 100) and Human Sexuality (BIOL 135). According to the Analysis of Weekly Student Contact Hours, in the Biology Department the ratio of FT:PT faculty has decreased from 2004-2006 from 44:56 to	This issue has not yet been addressed explicitly. We continue to 'muddle' along with a hiring crisis almost every semester (see Objective 3 for this year).

23:77 – which also clearly indicates the potential need for a second FT biology instructor.

Connection to other plans:
Strategic Plan, Policy Area 1
Effectiveness of Instruction/Student Development
Ed Plan, pg. 22, comparison of FT to PT Weekly Student Contact Hours
Ed plan, pgs. 55 -57, guiding processes for hiring new faculty

Resources/Budget Used:
Instruction
Basic Skills
Institutional Planning for new faculty hires

Objective 2:
Support ISP BIOL 100 and ensure that the ISP course meets the same standard as the on-campus course

In Spring 2009 the first ever ISP BIOL 100 (Concepts in Biology) was offered to a small cohort of students at the Susanville Prison by Michelle Fulton. Delivery of a biology course to a prison population is challenging, because it is impossible to deliver a quality lab component entirely by correspondence, and as the students either do not have access to computers able to handle online courses delivered on a CD or are not allowed to have access to online-labs via the internet. Maintaining the standard of the ISP class is important not only for the integrity of the ISP program, but also for the integrity of the FRC Biology Program. Furthermore, the ISP students need to experience a lab in a similar way to prepare them for transfer just as any other student.
At this point the ISP program plans to deliver the same course to a much larger cohort at a different prison much further away.

Summary of Progress:

The larger cohort was taught successfully by Michelle Fulton. Michelle and I both feel that we have developed an effective and meaningful way to deliver labs in this setting. However, Michelle will not be able to teach this course in the foreseeable future.

Connection to other plans:
Strategic Plan, Policy Area 1
Effectiveness of Instruction/Student Development

Resources/Budget Used:
Instruction, ISP

Objective 3: At the beginning of the year, the student worker hours for the Biology Department were dramatically cut to 1 hour per week. Student worker hours help to maintain a higher standard in lab instruction, which is labor-intensive in terms of planning, prepping, cleaning and maintaining the lab.	**Summary of Progress:** It seems like a more fair, transparent and equitable process to determine student worker hours has been put in place
Connection to other plans: Strategic Plan, Policy Area 1 Effectiveness of Instruction/Student Development Ed Plan, pg. 18 under Biology	**Resources/Budget Used:** ?

Objective 4: ***Maintenance of Biology Lab Equipment*** Since the last Accreditation there have been no funds for maintenance/replacement of the equipment in the biology lab.	**Summary of Progress:** This is an issue that has not been solved. I have handled this from my side by diverting some money from the regular biology budget to purchase smaller replacement items such as new objectives or light bulbs for the microscopes. However, this issue is also becoming more pressing with as most maintenance and replacement keeps being deferred.
Connection to other plans: Strategic Plan, Policy Area 1 Effectiveness of Instruction/Student Development	**Resources/Budget Used:** Annual need of $100-$1500 depending on what is going on with the equipment. This year, microscopes are overdue for maintenance (cost $1000 four years ago). Some microscopes are also so barely functioning that they will need to be replaced soon (Cost: 200-500 per microscope).

Objective 5: *Install an OSHA-approved safety shower in Science 107*	Summary of Progress:
There is no safety shower in the biology wet lab or in the science building, even though having a safety shower is an OSHA requirement. Due to age of the building, FRC is allowed to operate without the shower; however, for the safety of the students a shower is an absolute necessity and it should not be difficult to install one in the same area as the eye-wash station.	I have asked for this for 6 (!) years but to no avail. I don't know what else could be done to make this happen
Connection to other plans: Strategic Plan, Policy Area 1 Effectiveness of Instruction/Student Development Ed Plan, pg. 18 under Biology Ed Plan, pg. 58, Recommendation 1	**Resources/Budget Used:** One-time funds (?), Maintenance

Objective 6: *Counseling Services for biology majors and communication about biology-related major transfer requirements need to be improved.*	Summary of Progress:
Effective Counseling for Biology major students needs to be improved. Biology majors often receive incomplete or false advice on transfer requirements for Biology programs at four-year universities. In addition many articulation agreements have lapsed.	This issue has not been addressed but I expect that it will be when the general counseling issue will be solved more permanently.
Connection to other plans: Strategic Plan, Policy Area 1 Effectiveness of Instruction/Student Development Ed Plan, Critical Needs, pg. 17 on Articulation Ed Plan, pg. 18 under Biology	**Resources/Budget Used:** This is part of the issue with counseling service in general. A solution would involve staff time for planning and information-sharing meetings to improve communication about issues related to biology transfer students.

Objective 7:
Find ways to offer some of the biology electives which have not been taught in several semesters, specifically BIOL 135 (Human Sexuality) and BIOL 152 (Dendrology

FRC has not been able to offer either of these courses for several semesters both for lack of instructors as well as funding.

Summary of Progress:

Figure out a plan for being able to offer these courses again.
These courses should also be considered if and when FRC considers hiring another FT Biology Instructor. For example, if a new instructor covered BIOl 100 every other semester, it would free me up to teach BIOL 135 or BIOL 152. Also, a FT Human Anatomy and Physiology Instructor would most likely be interested in teaching BIOL 135.

Connection to other plans:
Strategic Plan, Policy Area 1
Effectiveness of Instruction/Student Development
Ed Plan, pg. 18 under Biology
Ed Plan, pg. 58, Recommendation 1

Resources/Budget Used:
Instruction

Objective 8:
Start planning a wet-lab expansion of Science 104

Analysis of classroom usage of the wet lab in Science 107 has demonstrated an immediate and long-term need to expand the lab facilities available to biological science courses, due to rising enrollment in nursing/allied health and the new major in Health, Physical Education and Exercise Studies. Science 107 is impacted especially during fall semesters, and the college, if it plans to increase enrollments, will need to do a combination of restructuring the class schedules (short term), renovating other rooms for wet lab use (intermediate term), and building new facilities (long term).

Summary of Progress:

So far, this problem has been addressed by restructuring the class schedule.

Connection to other plans:

Strategic Plan, Policy Area 1
Effectiveness of Instruction/Student Development
Ed Plan, pg. 18 under Biology

Resources/Budget Used:
?

CURRENT YEAR PROGRESS AND OBJECTIVES

What objectives and tasks will you take on for this year? (You may continue objectives from the prior year.) Will your allocated resources be sufficient given your objectives?

Objective 1:
PRESSING need to replace the aging autoclave

The 62-year-old autoclave (put into service by Peralta in 1948) in the biology lab is showing every sign of age-related break down. This year I have attempted to run it about 8 times and it has not worked properly once. Without an autoclave it would be very difficult and expensive to teach micro-biology – not only would I have to order anything I needed pre-made (rather than making it myself) and I would incur substantial costs in getting rid of the waste (autoclaved waste may go into the regular garbage stream). I also use the autoclave for all my other courses except BIOL 104 (Animal Biology, Evolution and Ecology). In summary, this is a serious teaching as well as safety issue.

Connection to other plans:
Strategic Direction I (Goal 1.1, Processes to allocate resources)
Strategic Direction II (Objective 2.4.1)
Strategic Direction III, Goals 3.2, 3.3 and 3.4 – Objectives 3.2.4 and 3.4.4
Mission Statement: Strive for Excellence by creating a quality learning environment fully supported by adequate resources. Not funding replacements for equipment does not maintain a quality learning environment.

Action Plan (include who is responsible):

I have already alerted President Taylor, CIO Bagley and the Division Chairs (Heaney, Lerch).

This amount is between 6 and 10x more than the annual budget of the biology department. This would be a one-time purchase that should last at least a decade or more.

There needs to be clearer communication on the process for getting funding for one-time, unexpected (replacement or needed) purchases.

Resources/Budget Needed:
$10,000 -15,000 (including shipping, tax, installation) for appropriate size

Objective 2:	Action Plan
Maintenance of Biology Lab Equipment* and *install an OSHA-approved safety shower in Science 107	**Bagley, Heaney, Thompson, Maintenance**
Since the last Accreditation there have been no funds for maintenance/replacement of the equipment in the biology lab. I have asked for funding for a safety shower for 7 years now to no avail.	This is an issue that has not been solved. I have tried to handle this from my side by diverting some money from the regular biology budget to purchase smaller replacement items such as new objectives or light bulbs for the microscopes. However, this issue is also becoming more pressing with as most maintenance and replacement keeps being deferred. There needs to be a better process to adequately address funding needs for this. Maintenance type expenses seem to always get deferred.
Connection to other plans: Strategic Direction I (Goal 1.1, Processes to allocate resources) Strategic Direction II (Objective 2.4.1) Strategic Direction III, Goals 3.2, 3.3 and 3.4 – Objectives 3.2.4 and 3.4.4 Mission Statement: Strive for Excellence by creating a quality learning environment fully supported by adequate resources. Only funding some maintenance and repair of equipment before accreditation visits does not fully maintain a quality learning environment.	**Resources/Budget Used:** Instruction, Maintenance, Safety

Objective 3:	Action Plan
Find an new Instructor for ISP BIOL 100 and support ISP BIOL 100 to ensure that the ISP course meets the same standard as the on-campus course	**Parkin, Bagley, Heaney, Fulton, Thompson**
Delivery of a biology course to a prison population is challenging, because it is impossible to deliver a quality lab component entirely by correspondence, and as the students either do not have access to computers able to handle online courses delivered on a CD or are not allowed to have access to online-labs via the internet. Maintaining the standard of the ISP class is important not only for the integrity of the ISP program, but also for the integrity of the FRC Biology Program. Furthermore, the ISP students need to experience a lab in a similar	Michelle Fulton and I have developed an effective and meaningful way to deliver labs in the prison setting that are comparable or even identical to the lab experience of students on campus. However, Michelle Fulton is currently not available to teach ISP BIOL 100 and will not be available for the foreseeable future. Both Joan Parkins (ISP Director) and I feel it is important to find a new instructor that can

way to prepare them for transfer just as any other student.	deliver this course. However, we have not had much luck with a job search, because this assignment involves travelling to the prison for 9 different labs. When Michelle was teaching the Chowchilla Cohort in Spring 2010 she was gone to the prison for 3 days during three different weeks. This kind of schedule has proven to be incompatible with other work Associate Faculty typically do. Joan Parkin will research whether it is possible to waive the lab component for ISP students and only deliver the lecture component. Otherwise we will continue to advertise for an instructor.
Connection to other plans: Strategic Directions I, II and III	**Resources/Budget Used:** Instruction, ISP

Objective 4: ***Bring more stability in terms of faculty to the Biology Program and in particular to BIOL 110 (Human Anatomy) and BIOL 112 (Human Physiology) as well as find ways to offer some of the biology electives which have not been taught in several semesters, specifically BIOL 135 (Human Sexuality) and BIOL 152 (Dendrology).* As mentioned above, the department has had difficulties filling needed positions for Human Anatomy and Physiology as well as ISP Biology 100. The on-campus Biology 100 course has grown to 80 students per semester. From lack of instructors the department also has not been able to offer either of these courses for several semesters both for lack of instructors as well as funding.	**Action Plan** (include who is responsible)**:** **Bagley, Heaney, Thompson, College Planning Process** I think the biology department is at a point where it is necessary to consider hiring an additional FT Biology Instructor for Human Anatomy and Physiology (2 courses) as well as for load in non-majors biology (BIOL 100), possibly ISP Biology and Human Sexuality (BIOL 135). According to the Analysis of Weekly Student Contact Hours, in the Biology Department the ratio of FT:PT faculty has decreased from 2004-2006 from 44:56 to 23:77 – which also clearly indicates the potential need for a second FT biology instructor.
Connection to other plans: Strategic Directions II and III (Goal 3.1, Objective 3.1.3)	**Resources/Budget Needed:** Instruction Institutional Planning for new faculty hires

Objective 5: ***Counseling Services for biology majors and communication about biology-related major transfer requirements need to be improved.*** Effective Counseling for Biology major students needs to be improved. Biology majors often receive incomplete or false advice on transfer requirements for Biology programs at four-year universities. In addition many articulation agreements have lapsed. **Connection to other plans:** Strategic Direction II, Goal 2.2, Objective 2.2.3 Ed Plan, Critical Needs, pg. 17 on Articulation Ed Plan, pg. 18 under Biology	**Action Plan:** **Thompson, Counseling Staff, Articulation Officer** This is an issue that has not been solved. I have handled this from my side by encouraging the students to see me about their transfer goals and course schedules. Articulation is also often handled on an individual basis between biology department and the transfer university. I further expect that some resolution may come when the general counseling issue will be solved more permanently. **Resources/Budget Used:** This is part of the issue with counseling service in general. A solution would involve staff time for planning and information-sharing meetings to improve communication about issues related to biology transfer students.

Objective 6: ***Start planning a wet-lab expansion of Science 104*** Analysis of classroom usage of the wet lab in Science 107 has demonstrated an immediate and long-term need to expand the lab facilities available to biological science courses, due to rising enrollment in nursing/allied health and the new major in Health, Physical Education and Exercise Studies. Science 107 will be impacted in Fall 2007, and the college, if it plans to increase enrollments, will need to do a combination of restructuring the class schedules (short term), renovating other rooms for wet lab use (intermediate term), and building new facilities (long term). **Connection to other plans:** Strategic Direction III, Goal 3.2, Goal 3.4, Objective 3.4.1 Effectiveness of Instruction/Student Development Ed Plan, pg. 18 under Biology	**Action Plan (include who is responsible):** **Thompson, Heaney, Bagley, Facilities Committee, Equine Faculty, Staff and Advisory Board** So far, this problem has been addressed by restructuring the class schedule. This issue is intertwined both with the possibility of hiring an additional FT Biology Instructor as well as the plan in the Equine Program to build a mare breeding facility with a lab space. **Resources/Budget Used:** ?

BUDGET CHANGE REQUESTS FOR NEXT YEAR

Please provide rationale for budget *changes* (attach budget request sheets for entire annual budget).

Budget Request(s): Biology Amount	Account Code	**Rationale** (include connection to other plans): **For connection to other plans see above**
$15,000	4310	Replacement of necessary equipment (autoclave)
$2000	4310 (Instruction)	Same as last year
$300	5101 (Student Travel)	
$100	4325 (non-instructional supplies)	Printer Cartridges etc.
$1000	?	Maintenance, repair and replacement of Biology Lab Equipment (Objective 3)
?	?	Purchase and Installing of a Safety Shower in Science 107

Budget Request(s): Anatomy Amount	Account Code	**Rationale** (include connection to other plans): **For connection to other plans see above**
$900	4310 (Instruction)	This budget supports 3 lab-intensive courses.
$600	5101 (Student Travel)	As FRC does not have human cadaver teaching capabilities, it is vital that this travel budget is maintained so classes can visit UNR for cadaver dissection experiences. Last year an additional $300 were needed because only $300 had been budgeted.

SUMMARY UPDATE FROM COMPREHENSIVE PROGRAM REVIEW

Based on data provided:

1. Describe the current status of the Program/Depart/Service Area.

The program has grown significantly over the last 6 years (since I started at FRC) especially in the area of Human Anatomy (BIOL 110) and non-majors biology (BIOL 100). According to the FRC Fact Book, The Biology Program has been the number 7 FTSE generator for FRC between F05 and Sp 08. The program is at a level where it could support an additional faculty member to cover 2 courses of Human Anatomy and/or Physiology each semester and sections of BIOL 100 (non-majors biology). Census Enrollment from 2009 to 2010 has increased by 35 (Appendix 1) though the number of sections per year has stayed consistent (Appendix 2) indicating that there are generally more students in each section. Also, despite an increasing number of students and quite a bit of instability in terms of instructors, the biology department has an average Student Success rate of 74%, which compares favorably with the FRC-wide Student Success rate which is 75% (Appendix 4). Retention for Biology also mirrors the FRC-wide Retention: 86% (Biology) vs. 89% (FRC)(Appendix 4). However, it is important to note that the department is at the brink of not being able to absorb more students in terms of available faculty, space and equipment without a considerable increase of institutional support.

2. Explain significant issues and/or changes that have occurred since the last comprehensive review.

- The program needs to replace its autoclave. This is a one-time purchase estimated to cost between $10,000 and $15,000 and should last at least a decade.
- An increasingly pressing need to do maintenance on other equipment such as microscopes
- The program needs to maintain the modest increase ($500) in its annual budget due to significant increases in students (Appendix 1). Please note that the Biology Department is requesting at total of only $2045 dollars when census enrollment in the department represents nearly 3% of total census enrollment (Appendix 3).
- Additional course of BIOL 110 (Human Anatomy) each semester
- Significant increase in class size in BIOL 100 (Concepts in Biology)
- Addition of ISP BIOL 100
- No faculty available for some elective biology courses such as BIOL 135 (Human Sexuality) or BIOL 152 (Dendrology).
- No available resources for lab maintenance or installation of safety shower since the last big accreditation site visit

3. Briefly explain significant changes expected during the upcoming year.

I expect that the additional Human Anatomy course will continue to be needed every semester as this course is not only part of the nursing curriculum, but of Health and Exercise Studies as well.
I also expect that the demand for space in the non-majors course (BIOL 100) will remain high – this class is specifically scheduled around the athletic schedule with Monday afternoon and Wednesday night labs and demand has increased every semester for the past 4 semesters.
I also expect that if enrollment continues in the biology program as it has in the last four semesters, that the program would put forward the idea of hiring a second FT Biology Instructor with emphasis on Human Anatomy and Physiology.

APPENDIX

Attach supporting documents as appropriate. Please see Instructions for examples of supporting documents per Management Area.

Appendix 1: Census Enrollment Biology:	2009: 478 2010: 513
Appendix 2: Number of Sections per year:	2009: 20 2010: 20

Appendix 3: Biology Census Enrollment of Total FRC Census Enrollment over the past two years: 2.9%

Appendix 4: Biology Student Success and Retention rates versus FRC-wide Student Success and Retention rates over the past two years:

Biology:	74%	Student Success	86% Retention
FRC :	75%	Student Success	89% Retention

2011-2012 BUDGET PROPOSAL

RESPONSIBILITY: Anna Thompson, Tom Heaney

FUND CODE: **1100 GENERAL - UNRESTRICTED**
ORGANIZATION CODE: **22040 LAS Biology**

FEATHER RIVER COMMUNITY COLLEGE DISTRICT

ACCOUNT CODE	ACCOUNT TITLE (Please provide specific detail supporting *Proposed Budget Request* .)	Strategic Planning Goals & Objectives Policy Area (If Applicable)	2009-10 ENDING BUDGET	2009-10 ACTUAL	2010-11 ADJUSTED FINAL BUDGET	2011-12 PROPOSED BUDGET REQUEST
22040						
4310	Biology Instruction: Lab Supplies	see attached APR	$ 1,816	$ 1,500	$ 2,045	$ 2,045
4310 (?)	Replacement of Autoclave	see attached APR	$ -	$ -	$ -	$ 15,000
5101	Student Travel	see attached APR	$ 300	$ 300	$ 300	$ 300
4325	Non-instructional Supplies	see attached APR	$ 100	$ 100	$ 100	$ 100
?	Student Worker Hours, request 7hrs/week for entire academic year	see attached APR	?	?	?	?

Strategic Planning Goals & Objectives 2008 - 2011

Policy Area 1: Effectiveness of Instruction/Student Development
Policy Area 2: Sustainability/Economic Stability
Policy Area 3: Enrollment Management
Policy Area 4: Decision-Making and Communication
Policy Area 5: Campus Environment
Policy Area 6: Facilities