

Baccalaureate Degree Program Assessment Update

Academic Year: 2014/15

College/Campus: Health and Human Development/University Park

Baccalaureate

Degree Program: Biobehavioral Health (BBH)

List of BBH Global Program Learning Objectives

1. Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease.
2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups.
3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public.
4. Understand and apply ethical principles in the conduct of research and professional practice and in the analyses in implementations of health-related policies and programs.
5. Plan, implement, and evaluate health promotion/disease prevention programs for diverse populations.

Part I: Data Collected and BBH Programmatic Changes-AY 14/15

I.1. Data Collected

Three sources of data are available for this AY 14/15 Assessment Report: 1) A Senior Exit Survey results from graduating seniors in the spring 2015 semester; 2) Alumni Survey results from BBH BS graduates during the period 1996-2014; and 3) Course-specific measures for BBH courses taught Fall and Spring semesters, AY 14/15. A brief description of these three sources of data follows.

I.1.1 BBH Senior Exit Survey. The *BBH Senior Exit Survey* is fielded separately to each graduating class of the Fall, Spring, and Summer semesters. The survey is fielded as an online survey anonymous survey. The link to the survey is sent to the panel of graduating seniors and up to 5 reminders are sent through the Qualtrics survey system. BBH has relatively small graduating classes for Summer and Fall commencements and here we report only results from the *BBH Spring 2015 Senior Exit Survey*. For the Spring semester there were 209 graduating seniors and we received responses from 146 for a response rate of 70%. Portions of the survey are related to assessing the career-related paths for graduating seniors and other portions of the survey are used for assessing the program goals. Description of the relevant content for assessing program goals is provided below in the Results section (I.2).

I.1.2. BBH Alumni Survey. In the Spring of 2015 BBH launched its first Alumni Survey of graduates with the Bachelors of Science (BS) Degree. The survey was fielded as an online survey with help of the PSU Alumni Society. The BBH undergraduate program was initiated in 1996. Up until the summer of 2014, a total of 2207 students graduated with a BS degree. Of these, the PSU Alumni Society had e-mail addresses for 1229 (56%). With the help of the Penn State Alumni Society an initial emailed invitation was sent to all graduates in January 2015 and three e-mail reminders were sent over the next two months. A total of 409 alumni whose e-mail address was known responded to the survey (33%). In order to maximize the likelihood of alumni finishing the survey and providing needed information on alumni career choices, the survey was arranged to allow skipping of portions of the survey. This Assessment Report provides results from alumni who chose to answer the questions on goals and objectives of the BBH program, N = 152 (37%).

I.1.3. Course specific Measures. Again, as we did for previous Assessment Reports, we identified *Course-specific Measures* for each of the five BBH Global Learning Objectives (see below for additional explanations on this process).

I.2. 2013 Senior Exit Survey Results

The *BBH Senior Exit Survey* collects data on a number of areas that are deemed important to evaluating the BBH program. The survey collects student self-assessments for each of the five major *BBH Global Program Learning Objectives*. Additionally, BBH has identified domains of knowledge and skills that are related to one or more of the global learning objectives. For example, for the global learning objective relating to fundamental processes influencing health (see Global Learning Objective 1 above) students were asked to self-assess their knowledge on genetics and health, stress and health, and pharmaceutical effects on health. Similarly, for the global learning objective related to understanding the processes relating to individual and group differences in health (see Global Learning Objective 2 above), students were asked to self-assess their knowledge relating to race and health, gender and health, and global perspectives on health. In all, nine knowledge and six skill domains were included in the survey to represent the underlying components of the five Global Program Learning Objectives. The exit survey also included special sections to assess student ratings on Advising Services and ratings on all required and elective BBH courses. Another section of the survey is included to assess student concerns about discrimination. Finally, the survey allows students to make narrative comments on all aspects of the BBH program, including faculty teaching, course content, academic advising and career preparation services, discrimination, and other important components of the BBH program.

The results of the survey are analyzed and compiled into three separate reports. A general *BBH Senior Exit Survey Report* focuses on results relating to: 1) student's self-assessment of their having met the Global Learning Objectives and self-assessments of having met the nine associated area-specific knowledge and the six skill domains, 2) course ratings; and 3) student comments on the

quality of the BBH program, on teaching performance, on course content, and on their overall experiences as a BBH major. This report serves as the source for the data reported below. Separate special reports are also developed focusing on *Advising Services* and on *Discrimination Issues*. As in the past, the general *BBH Senior Exit Survey Report* is distributed and discussed extensively by the entire BBH faculty at the Annual BBH Faculty Retreat. The *Advising Report* is distributed to the Department Head and to the Advisors. The *Discrimination Report* is distributed to the BBH Diversity Committee. Although data from these special reports are not reported here, these reports and the discussions that ensue also serve as evidence of the effort that BBH expends to monitor the quality of the academic program.

Examples of the compiled results on student self-assessments of having met different aspects of the BBH Program's Global Learning Objectives are given below in Tables I.2.a, I.2.b and I.2.c. Table I.2.a reports student self-assessment for the 5 *Global Learning Objectives*. Table I.2.b provides similar self-assessments for the 9 *Area Specific Learning Objectives*, and finally Table I.2.3 provides self-assessments for the 6 objectives for *Other Skills and Abilities*. The tables provide the number and percent of students who rate themselves as having achieved the objectives on a five-point Likert Scale, Excellent, Very Good, Good, Fair, or Poor. The tables also show the percent of students whose ratings are either Excellent or Very Good in bold. This latter measure is consider a good indicator of having met the program's goals, as indicated by the student's self-assessments. Analogous tables based on alumni self-assessments will be shown below in Tables 1.3a, 1.3.b, and 1.3.c.

Table I.2.a. Student Self-assessment of Meeting the BBH Program’s 5 *Global Learning Objectives*.

<p>The BBH program has a number of overall objectives regarding the knowledge, skills, and abilities that BBH majors should have by the time of graduation. For each of the following objectives, please describe how you would rate yourself as having developed the knowledge, skills, and abilities to meet that objective.</p>							
#	Objective	Excellent % (N)	Very Good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Total Responses % (N)
	% Excellent and Very Good						
1	Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease 91.5 %	54.3 (70)	37.2 (48)	8.5 (11)	0.0 (0)	0.0 (0)	100.0 (129)
2	Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 93.8 %	60.5 (78)	33.3 (43)	6.0 (8)	0.0 (0)	0.0 (0)	100.0 (129)
3	Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public. 96.9 %	64.3 (83)	32.6 (42)	18.6 (24)	0.0 (0)	0.0 (0)	100.0 (129)
4	Understand and apply ethical principles in the conduct of research and professional practice and in the analyses and implementations of health-related policies and programs. 83.7 %	53.5 (69)	30.2 (39)	14.0 (18)	2.3 (3)	0.0 (0)	100.0 (129)
5	Plan, implement, and evaluate health promotion/disease prevention programs for diverse populations. 87.6 %	51.2 (66)	36.4 (47)	10.1 (13)	2.3 (3)	0.0 (0)	100.0 (129)

Table I.2.b. Student Self-assessment of Meeting the BBH Program’s 9 Area-specific Learning Objectives.

<p>The BBH program has a number of objectives regarding the knowledge about <u>specific areas</u> that BBH majors should have by the time of graduation. For the following <u>specific areas</u>, please describe how you would rate yourself as having developed the knowledge/skills to address each of the objectives.</p>							
#	Area-specific Objective % Excellent and Very Good	Excellent % (N)	Very Good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Total Responses % (N)
1	Racial/Ethnic identities and health 84.9 %	46.0 (58)	38.9 (49)	11.1 (14)	4.0 (5)	0.0 (0)	100.0 (126)
2	Gender Identities and health 88.9 %	53.2 (67)	35.7 (45)	9.5 (12)	1.6 (2)	0.0 (0)	100.0 (126)
3	Sexual orientation and health 77.6 %	40.8 (51)	36.8 (46)	16.8 (21)	4.0 (5)	1.6 (2)	100.0 (125)
4	International perspectives and health 64.3 %	28.6 (36)	35.7 (45)	27.8 (35)	7.1 (9)	0.8 (1)	100.0 (126)
5	Drug and pharmaceutical effects and health 75.4%	42.9 (54)	35.5 (21)	15.9 (20)	8.7 (11)	0.0 (0)	100.0 (126)
6	Genetic issues and health 75.4 %	42.1 (53)	30.2 (38)	23.0 (29)	4.8 (6)	0.0 (0)	100.0 (126)
7	Health promotion, program planning, implementation, and evaluation 85.7 %	54.0 (68)	31.7 (40)	12.7 (16)	1.6 (2)	0.0 (0)	100.0 (126)
8	Effects of stress on health 93.7 %	77.8 (92)	15.9 (20)	5.6 (7)	0.8 (1)	0.0 (0)	100.0 (126)
9	Research methods that integrate health and behavior 80.8 %	51.2 (64)	29.6 (37)	16.0 (20)	2.4 (3)	0.8 (1)	100.0 (125)

Table I.2.c. Student self-assessment of meeting the BBH Program’s 6 Learning Objectives for *Other Skills and Abilities*.

The BBH program also has a number of objectives regarding other skills and abilities that BBH majors should have by the time of graduation. For each of the following specific skills, please describe how you would rate yourself as having developed that specific skill.							
#	Objectives for Other Skills and Abilities Related to Program Goals	Excellent % (N)	Very Good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Total Responses % (N)
	% Excellent and Very Good						
1	Library and web-based research skills to effectively collect and evaluate information on health issues 82.7 %	52.8 (67)	29.9 (38)	11.0 (14)	5.5 (7)	0.8 (1)	100.0 (127)
2	Writing skills to effectively communicate and write reports on health issues 78.7 %	48.8 (62)	29.9 (38)	18.1 (23)	3.1 (4)	0.0 (0)	100.0 (127)
3	Speaking skills to effectively communicate and make oral presentations on health issues 63.8 %	30.7 (39)	33.0 (42)	27.6 (35)	7.1 (9)	1.6 (2)	100.0 (127)
4	Quantitative skills to effectively analyze and summarize data on health information 70.9 %	37.0 (47)	33.9 (43)	20.0 (25)	8.7 (11)	0.8 (1)	100.0 (127)
5	Computer and software skills to effectively analyze and present health-related data 63.0 %	28.3 (36)	34.6 (44)	22.8 (29)	11.8 (15)	2.4 (3)	100.0 (127)
6	Teamwork skills to work effectively in groups 87.4 %	59.8 (76)	27.6 (35)	10.2 (13)	2.4 (3)	0.0 (0)	100.0 (127)

Discussion on Student Self-Assessment Results

The results shown in Tables I.2.a, I.2.b and I.2.c above generally suggest that the majority of BBH graduating seniors feel that they have acquired the knowledge and skills to meet all of the BBH program’s objectives including the 5 *Global Learning Objectives*, the 9 *Area-specific Objectives*, and the 6 objectives for *Other Skills and Abilities*.

Considering the 5 *Global Learning Objectives*, as shown in Table I.2.a at least 80% of graduating seniors gave ratings of *Excellent* or *Very Good* with respect to having developed the knowledge, skills, and abilities to meet each of the 5 objectives. Only a small minority of students rated their

abilities as *Fair*, and no students rated themselves as *Poor*. The results in Table 1.2.a are better than the analogous results from the 2013 BBH Senior Exit Survey that were reported in last year's (AY 13/14) BBH Assessment Plan Update, especially for the percentages of the combined "*Excellent*" and "*Very Good*" ratings. Compared to the previous survey, the Spring 2015 survey results for the "Excellent and Very Good" ratings were higher for all 5 *Global Learning Objectives*. The increase in the percent of students rating "Excellent or Very Good" increased by 4.8%, 8.0%, 15.5%, 3.2%, and 8.0% for the 5 *Global Learning Objectives*, respectively.

The results of the self-assessment ratings of the 9 separate knowledge domains (e.g., race and health, genetics and health, etc.) shown in Table 1.2.b were generally consistent with the results in Table 1.2.a but with fewer students giving *Excellent* and *Very Good* ratings. It is clear that the students rated themselves as being very well prepared with respect to having knowledge and abilities to speak to the effects of stress on health (90.3% *Excellent* and *Very Good* ratings), but much less so with respect to the knowledge and ability to speak to drug and pharmaceutical effects and health (59.3% *Excellent* and *Very Good* ratings), and on international/global perspectives and health (54.5% *Excellent* and *Very Good* ratings). Again, the self-assessment ratings for area-specific objectives obtained from this year's Spring 2015 survey were generally consistent with—but somewhat less than—the results reported last year's Exit Survey. It is not clear why the self-assessment ratings are lower for the area-specific objectives. It should be mentioned that although content relating to the area-specific objectives is included in many of the required BBH courses (e.g., *BBH 440-Principles of Epidemiology*), the more extensive treatment of the area-specific objectives is dealt with in elective courses (e.g., *BBH 407-Global Health Equity*, and *BBH 451-Pharmacological Influences on Health*) which not all BBH graduates (and survey respondents) have taken. Although we feel that we should do better with respect to the student self-assessment ratings for the area-specific objectives (and especially the objective on international/global perspective and health), we recognize that these ratings may reflect that many students do not take the elective courses that would warrant *Excellent* and *Very Good* ratings. In the future we will perform analyses to compare ratings for area-specific objectives of students who have taken the relevant elective courses compared to those who have not taken the courses.

The results shown in Table 1.2.c for the Objectives relating to *Other Skills and Abilities* are also generally consistent with the self-assessment ratings shown for the 5 Global Learning Objectives, and the 9 Area-specific Objectives. With the possible exception of having developed computer and software skills to effectively analyze and present health-related data, the student self-assessment ratings were generally good for each of the objectives relating to *Other Skills and Abilities*. We are especially pleased with the overall rating for the rating of having obtained teamwork skills (90.3% *Excellent* and *Very Good*) as this skill is relevant to many careers and occupational settings. We recognize that the rating for the ability to have computer and software skills to effectively analyze and present health-related data is rather low (52.4% *Excellent* and *Very Good* ratings) and we think we will improve on this due to ongoing changes to our required course *BBH 411w-Research and Applications in Biobehavioral Health* course (see below: BBH Programmatic Changes).

I.3. 2015 Alumni Survey Results

Examples of the compiled results on alumni self-assessments of having met different aspects of the BBH Program's *Global Learning Objectives* are given below in Tables I.3.a, I.3.b and I.3.c below. These tables are analogous to the Student self-assessments shown above.

Table I.3.a. Alumni Self-assessment of Meeting the BBH Program's *Global Learning Objectives*.

The BBH program has a number of overall objectives regarding the knowledge, skills, and abilities that BBH majors should have by the time of graduation. For each of the following objectives, please describe how you would rate yourself as having developed the knowledge, skills, and abilities to meet that objective.							
#	Objective % Excellent and Very Good	Excellent % (N)	Very Good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Total Responses % (N)
1	Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease 91.4 %	52.6 (80)	30.8 (59)	7.2 (11)	1.3 (2)	0.0 (0)	100.0 (152)
2	Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 87.4 %	52.3 (79)	35.1 (53)	0.9 (14)	0.3 (4)	0.1 (1)	100.0 (151)
3	Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public.	This goal was not rated by alumni due to a programming error.					
4	Understand and apply ethical principles in the conduct of research and professional practice and in the analyses and implementations of health-related policies and programs. 79.6 %	42.8 (65)	36.8 (56)	15.1 (23)	5.3 (8)	0.0 (0)	100.0 (152)
5	Plan, implement, and evaluate health promotion/disease prevention programs for diverse populations. 79.6 %	42.8 (65)	36.8 (56)	12.5 (19)	7.2 (11)	0.1 (1)	100.0 (152)

Table I.3.b. Alumni Self-assessment of Meeting the BBH Program’s *Area-specific Learning Objectives*.

<p>The BBH program also has a number of objectives regarding the knowledge about <u>specific areas</u> that BBH majors should have by the time of graduation. For each of the following <u>specific areas</u>, please describe how you would rate yourself as having developed the knowledge and skills to address each of the specific objectives.</p>							
#	Area-specific Objective % Excellent and Very Good	Excellent % (N)	Very Good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Total Responses % (N)
1	Racial/ethnic identities and health 76.8 %	29.1 (44)	47.7 (72)	15.9 (24)	6.6 (10)	0.7 (1)	100.0 (151)
2	Gender identities and health 76.3 %	35.5 (54)	40.8 (62)	15.1 (23)	6.6 (10)	2.0 (3)	100.0 (152)
3	Sexual orientation and health 57.0 %	26.5 (40)	30.5 (46)	22.6 (42)	11.3 (17)	4.0 (6)	100.0 (151)
4	International/global perspectives and health 54.3 %	22.5 (34)	31.8 (48)	33.8 (51)	8.6 (13)	3.) (5)	100.0 (151)
5	Drug and pharmaceutical effects and health 68.9%	35.1 (53)	33.8 (51)	21.2 (32)	7.3 (11)	2.6 (4)	100.0 (151)
6	Genetic issues and health 77.6 %	37.5 (57)	40.1 (61)	11.8 (18)	9.2 (14)	1.3 (2)	100.0 (152)
7	Health promotion program planning, implementation, and evaluation 83.6 %	53.3 (81)	30.3 (46)	12.) (19)	3.3 (5)	0.7 (1)	100.0 (152)
8	Effects of stress on health 90.1 %	65.8 (100)	24.3 (37)	9.2 (14)	0.0 (0)	0.7 (1)	100.0 (152)
9	Research methods that integrate health and behavior 83.4 %	48.) (73)	35.1 (53)	12.6 (19)	4.0 (6)	0.0 (0)	100.0 (152)

Table I.3.c. Alumni self-assessment of meeting the BBH Program’s Learning Objectives for *Other Skills and Abilities*.

The BBH program also has a number of objectives regarding other skills and abilities that BBH majors should have by the time of graduation. For each of the following specific skills, please describe how you would rate yourself as having developed that specific skill.							
#	Objectives for Other Skills and Abilities Related to Program Goals % Excellent and Very Good	Excellent % (N)	Very Good % (N)	Good % (N)	Fair % (N)	Poor % (N)	Total Responses % (N)
1	Library and web-based research skills to effectively collect and evaluate information on health issues 74.2 %	35.1 (53)	39.1 (59)	18.5 (28)	7.3 (11)	0.0 (0)	100.0 (151)
2	Writing skills to effectively communicate and write reports on health issues 77.0 %	37.5 (57)	39.5 (60)	18.4 (28)	3.9 (6)	0.7 (1)	100.0 (152)
3	Speaking skills to effectively communicate and make oral presentations on health issues 57.9 %	23.0 (35)	34.9 (53)	28.3 (43)	13.2 (20)	0.7 (1)	100.0 (152)
4	Quantitative skills to effectively analyze and summarize data on health information 69.1 %	28.3 (43)	40.8 (62)	21.0 (32)	9.2 (14)	0.7 (1)	100.0 (152)
5	Computer and software skills to effectively analyze and present health-related data 56.3 %	19.2 (29)	37.1 (56)	25.2 (38)	16.6 (25)	2.0 (3)	100.0 (151)
6	Teamwork skills to work effectively in groups 78.3 %	40.8 (63)	36.8 (56)	16.4 (25)	4.6 (7)	2.0 (2)	100.0 (152)

Discussion on Alumni Self-Assessment Results

The results on Alumni self-assessments shown in Tables I.3.a, I.3.b and I.3.c above are generally consistent with the student self-assessments shown above (Tables I.2.a, I.2.b, and I.2.c) and suggest that the majority of BBH alumni are in agreement that their BBH educational experiences met the BBH Program’s learning objectives including the 5 *Global Objectives*, the 9 *Area-specific Objectives*, and the 6 objectives for *Other Skills and Abilities*.

Overall, the alumni ratings are only slightly lower than the ratings of graduating seniors for most of the goals and objectives. Considering the global objectives, as shown in Table I.3.a at least 80% of alumni gave ratings of *Excellent* or *Very Good* with respect to having developed the knowledge, skills, and abilities to meet each of the BBH Program’s 5 *Global Learning Objectives*. For the first

Global Learning Objective the combined Excellent or Very Good percentage rating of alumni was nearly identical to the student's rating (91.4 vs 91.5 respectively). The alumni ratings for the other global learning objectives for which data were available were only modestly lower in comparison to the student ratings. As with the student ratings only a small minority of alumni rated their abilities as *Fair*, and only 1 alumnus rated him/herself as *Poor*.

Although the results of the student and alumni self-assessment ratings of the global learning objectives were consistent, this was less true for the 9 separate area-specific knowledge domains (e.g., race and health, genetics and health, etc.) shown in Table I.2.b and I.3.b above. The pattern of ratings is the same between students and alumni but the alumni ratings were slightly lower, as compared to student ratings. Nevertheless, in general the majority of alumni favorably reported (Excellent or Very Good ratings) that the BBH program met the 9 Area-specific learning objectives (range of Excellent or Very Good ratings: 54.3% to 90.1% over the 9 objectives). As was mentioned above, it is the case that although content relating to the area-specific objectives is included in many of the required BBH courses (e.g., *BBH 440-Principles of Epidemiology*), the more extensive treatment of the area-specific objectives is dealt with in elective courses (e.g., *BBH 407-Global Health Equity*). Some the elective courses were added to the BBH curriculum during the approximate 20-year history of the BBH undergraduate program and may not have been available to alumni graduating early in the program. It is indeed remarkable that the alumni ratings are as high as they are, and that for two of the area-specific learning objectives, the alumni ratings (Excellent or Very Good), were higher than the student ratings: *Genetic Issues and Health*, Students = 75.4%, Alumni = 77.6%; and, *Research methods to integrate behavior and health*, Students = 80.8%, Alumni = 83.4%.

The results for alumni ratings shown in Table 1.3.c for the objectives relating to *Other Skills and Abilities* are also generally consistent with the student self-assessment ratings shown in Table I.2.c. Alumni ratings are slightly lower than student ratings. With possible exception of the goal for developing *Computer and software skills to effectively analyze and present health-related data*, the alumni ratings are generally good for each of the objectives relating to *Other Skills and Abilities*.

In summary, we believe that the student self-assessments and the alumni self-assessments positively support the conclusion that the BBH is meeting the program's learning objectives including the 5 *Global Learning Objectives*, the 9 *Area-specific Learning Objectives*, and the 6 objectives relating to *Other Skills and Abilities*.

I.4. Course-specific Assessment Measures

In our AY 12/13 BBH Program Assessment report we included course-specific measures of activities that related to the Program's Global Objectives. We included this procedure in our AY 13/14 Report and we again report here on course-specific assessment measures as evidence of meeting the Program's Global Learning Objectives.

Although most BBH courses do map in part onto nearly all five of the BBH Global Learning Objectives, for this report our criteria for specifying whether or not a course mapped on to a specific global objective was made based on previously obtained faculty ratings that a given course had a “significant” amount of material related to the specific objective. In addition to mapping the course goals onto the Program Goals, we asked faculty instructors to nominate course-specific assignments as potential direct measures of one or more of the global objectives. Table 1.3, from the AY 13/14 Assessment Plan Update and re-reported here for this AY 14/15 BBH Assessment Plan Update, summarizes the mapping of BBH courses onto the 5 BBH Global Program Objectives. (The BBH Global Program Objectives are re-produced below to facilitate reading the table).

BBH Program Global Learning Objectives:

1. Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease.
2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups.
3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public.
4. Understand and apply ethical principles in the conduct of research and professional practice and in the analyses in implementations of health-related policies and programs.
5. Plan, implement, and evaluate health promotion/disease prevention programs for diverse populations.

Table 1.4.a. Map of BBH’s Required and Elective Courses onto the BBH Program’s Global Learning Objectives

BBH Courses (bold = a required course)	BBH Program Global Learning Objectives				
	(1)	(2)	(3)	(4)	(5)
BBH 101: Introduction to Biobehavioral Health	X	X	X	X	X
BBH 203/Psych 260: Neurological Bases of Human Behavior	X	X	X		
BBH 301w: Ethics in Biobehavioral Research and Practice*				X	
BBH 302: Diversity and Health	X	X	X		
BBH 305: Introduction to Global Health Issues		X	X		
BBH 310: Research Strategies for Studying Biobehavioral Health		X	X		
BBH 311: Interdisciplinary Integration in Biobehavioral Health	X	X	X	X	
BBH 315: Gender and Biobehavioral Health	X	X			
BBH 316: Foundations and Principles of Health Promotion		X	X	X	X
BBH 368: Neuroanatomy, Behavior, and Health	X	X	X		
BBH 402: African Health and Development	X	X			
BBH 407: Global Health Equity	X	X			
BBH 410: Developmental and Health Genetics	X	X			
BBH 411w: Research Applications in Biobehavioral Health			X	X	X
BBH 416: Health Promotion II: Planning and Implementation*			X	X	X
BBH 417: Advanced Applications in Health Promotion			X		
BBH 432: Biobehavioral Aspects of Stress	X	X	X		
BBH/HPA 440: Principles of Epidemiology	X	X	X	X	X

BBH Courses (bold = a required course)	BBH Program Global Learning Objectives				
	(1)	(2)	(3)	(4)	(5)
BBH 446: Human Sexuality as a Health Concern	X	X	X		
BBH 451: Pharmacological Influences on health	X	X	X		
BBH/WMNST/NURS 452: Women’s Health Issues	X	X	X		
BBH/WMNST 458: Critical Issues in Reproduction	X	X	X		
BBH 468: Neuroanatomical Bases for Disorders of Behavior and Health	X	X			
BBH/BIOL 469: Neurobiology	X	X			
BBH/BIOL 470: Functional and Integrative Neuroscience	X	X			

*This course was recently changed to a writing intensive (“w”) course and will be a required course in the major starting AY 15/16.

The BBH faculty nominated many tasks and assignments as being indicative of meeting the Program’s Global Learning Objectives. Several were selected here to illustrate meeting one or more of the Global Learning Objectives. Below are tables that provide summary information regarding the: 1) the course and course-related information; 2) the course objectives, 3) the BBH Program Global Learning Objectives relevant to the course, 4) the assignment or project selected as indicative of meeting the Program Global Learning Objective(s), and 5) notes and a summary of student performance related to the assignment.

The courses are presented by course number which generally indicates the order that courses are taken by BBH majors (300- level courses before 400-level courses), but students in the BBH program have great latitude with respect to scheduling courses.

There were slight differences in the grading scales across some of the courses. We used the instructor’s grading schema for establishing a cutoff for the C+ grade (generally C+ = 77-79 %) of the maximum assignment score as a benchmark for meeting the program objective. The performance of students for the specific assignment relative to the benchmark is provided in the Notes and Summary of Student Performance section of the Table. For this AY 14/15 BBH Assessment Plan Update we used measures obtained from 5 of the 7 courses previously reported in the BBH Assessment Plan Update for AY 13/14. For this AY14/15 report we have added three courses not previously reported: *BBH 410-Developmental and Health Genetics*, *BBH 417-Advanced Applications in Health Promotion*, and *BBH 432-Biobehavioral Aspects of Stress*. For this report we dropped *BBH 416-Health Promotion II; Planning, Implementation and Evaluation* and *BBH 446-Human Sexuality as a Health Concern*. Results relating to the performance of BBH majors on these 8 course-specific measures are reported below in Tables I.4.b through I.4.i.

Table I.4.b. Summary of BBH 301 and Assignment Selected to Represent Meeting Program Learning Objective 4.

Course	<p><i>BBH 301w: Values and Ethics in Biobehavioral Health Research and Practice</i> , Spring '15, Instructor = M. Stine</p> <p>Prerequisites: None. However, most students do previously take <i>BBH 101-Introduction to Biobehavioral Health</i></p>																								
Course Goals	<p>Course Objectives:</p> <p>By the end of this class students should be able to:</p> <ol style="list-style-type: none"> 1. Identify and explain major philosophical theories of ethical behavior; 2. Describe the codes/rules governing ethical practice in research and how they have developed; 3. Apply the theories and constructs of ethical decision making to practical examples of ethical issues in biobehavioral policy, research and practice; and 4. Explain the rationale for making decisions regarding “real world” issues in health policy, research, and practice. 																								
BBH Program Global Learning Objective relevant to this course	<p>4. Understand and apply ethical principles in the conduct of research and professional practice and in the analyses in implementations of health-related policies and programs.</p> <p>To that end, this course covers five broad areas of applied ethics, within the context of specific topics germane to biobehavioral health: 1) Academic Integrity, 2) Biomedical Ethics, 3) Research Ethics, 4) Health Services and Practice Ethics, and 5) Scientific Integrity.</p>																								
Assignments selected as a measure of meeting Program Learning Objective	<p>Class Tasks (abridged summary below based on class materials).</p> <p>This course is designed to expose students to understanding and incorporating ethical principles in the conduct in biobehavioral health policy, research, and practice. Students are given a grounding in ethical theories (Act Utilitarian, Rule Utilitarian, Deontological, etc.), ethical concepts (Autonomy, Beneficence, Justice, etc.), and on ethical codes for applied research and professional practice. Students are assigned readings, lectures are provided by the instructor, and students engage in class discussion on ethical issues. A significant component of the course is analyses of case studies. These analyses require identifying stakeholders, identifying principles for making a decision, making a decision, and analyzing the probable consequences of decisions. Through the process of multiple submissions of cases studies with appropriate instructor feedback students gain the ability to understand and apply ethical principles in biobehavioral policy, research, and practice.</p>																								
Notes and student performance on this measure	<p>For the Spring '15 semester, student submitted 14 assignments relating to ethical case studies over the course of the semester. The average of these assignments was computed and this average was converted to a grade according to the grading schema for the course (94-100 = A, etc.). The assignments collectively account for 40% of the total grade.</p> <p>Scores (Spring, 2015, N=102; Maximum possible average score is 100% over 14 assignments)</p> <table border="1"> <thead> <tr> <th>Score:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>>60</td> <td>1</td> <td>1.0</td> </tr> <tr> <td>60-75</td> <td>4</td> <td>3.9</td> </tr> <tr> <td>76-82</td> <td>5</td> <td>4.9</td> </tr> <tr> <td>83-89</td> <td>13</td> <td>12.9</td> </tr> <tr> <td>90-93</td> <td>19</td> <td>18.6</td> </tr> <tr> <td>94-100</td> <td>60</td> <td>58.9</td> </tr> <tr> <td>Total</td> <td>102</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Benchmark:</p> <p>An average score of 76 would be a C+ for these assignments.</p> <p>At least 96% of students earned a C+ grade-equivalent or better for the 14 case-study assignments.</p> </div>	Score:	N	%	>60	1	1.0	60-75	4	3.9	76-82	5	4.9	83-89	13	12.9	90-93	19	18.6	94-100	60	58.9	Total	102	100.0
Score:	N	%																							
>60	1	1.0																							
60-75	4	3.9																							
76-82	5	4.9																							
83-89	13	12.9																							
90-93	19	18.6																							
94-100	60	58.9																							
Total	102	100.0																							

Table I.4.c. Summary of BBH 311 and Assignment Selected to Represent Meeting Program Learning Objectives 1, 2, 3, and 4.

Course	<i>BBH 311: Interdisciplinary Integration in Biobehavioral Health, Spring 2014, Instructor = H. Kamins</i> Prerequisites: <i>BBH 101-Introduction to Biobehavioral Health, BIOL 110-Basic Concepts and Biodiversity, PSYCH 100-Introduction to General Psychology</i>
Course Goals	This course review scientific literature relevant to the concepts and findings of different scientific domains and integrating them into a Biobehavioral Health framework. The primary objectives are: 1. To review the breadth of topics involved in the field of Biobehavioral Health and provide more detailed understanding of some key concepts in the field. Students will learn about issues currently under investigation by researchers who use a biobehavioral perspective. 2. To learn about the various levels of analyses (e.g., behavioral, molecular, environmental) commonly used in different disciplines, and how the integration of those approaches and disciplines is critical to the field of Biobehavioral Health. To learn how to integrate these levels of analysis in the interpretation of health issues. 3. To enhance critical thinking and communication skills in various applied and research areas.
BBH Program Global Learning Objective relevant to this course	1. Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease. 2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public. 4. Understand and apply ethical principles in the conduct of research and professional practice and in the analyses in implementations of health-related policies and programs.
Assignment selected as a measure of meeting Program Learning Objective	Class Assignments (abridged summary below based on class materials). There are 12 “thought questions” assigned throughout the course. An example is as follows: Conduct a literature search using PubMed to find an article on a health problem where mindfulness-based behavior (meditation, yoga, etc.) helped decrease the incidence or severity of the problem. The article must be a research study (i.e., not a review article). Describe the health problem/illness that was targeted. Describe how mindedness helped increase the rate of healing or alleviated the problem. Critique the article in terms of quality of research, quality of results and implications for a biobehavioral bases for the health problem.
Notes and student performance on this measure	Each thought question assignment is scored on a 5 point scale. The 4 largest scores are summed and the sum (maximum = 20) accounts for 12% of the total grade. The thought question sum was converted to a percentage (x/20) and converted to a grade according to the grading schema of the course. The grade distribution of the thought question total is considered here to represent meeting the programs goals. Scores (Fall, 2014, N=129; Maximum possible score is 100%) Grade: % F 9 D 5 C 4 C+ 6 B- 0 B 26 B+ 14 A- 21 A 44 Benchmark: Percentage scores of 76-79% would be a C+ for the sum of the 4 highest scores / 20. At least 86% of students earned a C+ grade-equivalent or better for this assignment.

Table I.4.d. Summary of BBH 315 and Assignment Selected to Represent Meeting Program Objective 1 and 2

Course	<i>BBH 315: Gender and Health, Spring 2015, Instructor = L. Wray</i> Prerequisite: <i>BBH 101-Introduction to Biobehavioral Health.</i>																																		
Course Goals	At the completion of this course students should be able to: 1. Understand and describe the basic interactive influence of biological, behavioral, psychological, and sociological factors on gender and sex differences; 2. Understand and describe gender differences in health, morbidity, mortality across the human lifespan, focusing on three stages: infancy and childhood, adolescence and young adulthood, and middle age and older age; and 3. Understand and describe the influence of biological, behavioral, psychological, and sociocultural factors on the differences in health, morbidity, and mortality across three life stages.																																		
BBH Program Global Learning Objective relevant to this course	1) Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease 2) Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups.																																		
Assignment selected as a measure of meeting Program Learning Objectives	Six assignments based on "Thought Questions" (abridged summary below based on class materials) Students will be required to write six reports on the required readings and "Thought Questions" related to each of three life-stage course modules. Students must apply critical thinking to the readings and provide support from the readings in answering the "Thought Questions". Readings are typically 3-4 required published articles related to each module. A typical "Thought Question" is: Drawing on readings for the topic of gender differences in depression and suicide, what was discussed in class to date, and your own experiences, answer one of the following two questions: (1) What do you think about the hypotheses and findings that Nolen-Hoeksema and her colleagues developed and found? Do they make sense to you, based on your own experience or what you thought might be the reasons for the gender difference in depression? How do biological, developmental, socialization, historical, and environmental factors influence your answer?																																		
Notes and student performance on this measure	<p>The six assignments are each worth 25 points and collectively comprise 27% of the course grade. Papers are graded considering clarity, completeness, and conciseness of the arguments including good grammar and style. The results of the average of the 6 "Thought Questions" were selected here to illustrate meeting the program objective. The average score was converted to a percentage (x/6) and this percentage converted to a grade according to the grading schema for the course.</p> <p>Scores (Fall 2013, N=135)</p> <table border="1"> <thead> <tr> <th>Grade:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>F</td> <td>0</td> <td>0</td> </tr> <tr> <td>D</td> <td>1</td> <td>0.7</td> </tr> <tr> <td>C</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>C+</td> <td>1</td> <td>0.7</td> </tr> <tr> <td>B-</td> <td>1</td> <td>0.7</td> </tr> <tr> <td>B</td> <td>8</td> <td>5.9</td> </tr> <tr> <td>B+</td> <td>10</td> <td>7.4</td> </tr> <tr> <td>A-</td> <td>14</td> <td>10.4</td> </tr> <tr> <td>A</td> <td>100</td> <td>74.1</td> </tr> <tr> <td>Total</td> <td>135</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Benchmark:</p> <p>A score of 76-79 would be a C+ for this assignment. Approximately 99% of students earned a C+ grade-equivalent or better for these assignments.</p> </div>		Grade:	N	%	F	0	0	D	1	0.7	C	0	0.0	C+	1	0.7	B-	1	0.7	B	8	5.9	B+	10	7.4	A-	14	10.4	A	100	74.1	Total	135	100.0
Grade:	N	%																																	
F	0	0																																	
D	1	0.7																																	
C	0	0.0																																	
C+	1	0.7																																	
B-	1	0.7																																	
B	8	5.9																																	
B+	10	7.4																																	
A-	14	10.4																																	
A	100	74.1																																	
Total	135	100.0																																	

Table I.4.e. Summary of BBH 316 and Assignment Selected to Represent Meeting Program Objective 2, 3, 4 and 5.

Course	<p><i>BBH 316: Foundations and Principles of Health Promotion, Spring, 2015, Instructor = J. Foley-DeFiore</i> <i>Prerequisite: BBH 101-Introduction to Biobehavioral Health.</i></p>																									
Course Goals	<p>At the conclusion of this course, students will: 1) Develop working definitions of health, healthy behavior, health promotion and disease prevention 2) Explain and apply theoretical and conceptual constructs of health promotion and prevention 3) Understand how culture, the environment and social structures impact health and healthy behaviors of diverse groups of individuals.</p>																									
BBH Program Global Learning Objective relevant to this course	<p>2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public. 4. Understand and apply ethical principles in the conduct of research and professional practice and in the analyses in implementations of health-related policies and programs. 5. Plan, implement, and evaluate health promotion/disease prevention programs for diverse populations.</p>																									
Assignment selected as a measure of meeting Program Learning Objectives	<p>Applied Project: Planning a health promotion ad campaign (abridged summary below based on class materials) Describe the prevalence and incidence of your health issue and how it varies by sociocultural groups. Describe the target audience's (of your health promotion) characteristics. Create a PSA (public service advertisement). Theoretical connections: explain how the message and content of your PSA illustrate the application of one health behavior theory covered in class. Clarify how the theory you chose best explains how to change the behavior that is being targeted in your PSA. Discuss the challenges with promoting the healthy behavior you chose for your target audience. Explain how your PSA helps to address those challenges.</p>																									
Notes and student performance on this measure	<p>This assignment was worth 45% of the student's total grade and was completed in three stages, with some parts worked on during class time. The final product consisted of a written short report and a PowerPoint slide (or color copy or other media) which contained their public service advertisement.</p> <p>Students were given three grading rubrics for each of the 3 components: 1) Health Issue and Target Audience Rubric, 2) Theoretical Connections Rubric, and 3) PSA and Marketing Message Rubric. Students were given written feedback as well. The sum of the scores of the three stages was selected here to illustrate meeting the program objectives.</p> <p>Scores (Spring 2013, N=159; 45 points maximum possible)</p> <table border="1"> <thead> <tr> <th>Score:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>0-20</td> <td>8</td> <td>5.0</td> </tr> <tr> <td>21-25</td> <td>1</td> <td>0.6</td> </tr> <tr> <td>26-30</td> <td>1</td> <td>0.6</td> </tr> <tr> <td>31-35</td> <td>3</td> <td>1.9</td> </tr> <tr> <td>36-40</td> <td>18</td> <td>11.3</td> </tr> <tr> <td>41-45</td> <td>128</td> <td>80.5</td> </tr> <tr> <td>Total</td> <td>159</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Benchmark: A score of 36 would be a C+ for this assignment. At least 92% of students earned at least a C+ grade-equivalent or better for this assignment.</p> </div>		Score:	N	%	0-20	8	5.0	21-25	1	0.6	26-30	1	0.6	31-35	3	1.9	36-40	18	11.3	41-45	128	80.5	Total	159	100.0
Score:	N	%																								
0-20	8	5.0																								
21-25	1	0.6																								
26-30	1	0.6																								
31-35	3	1.9																								
36-40	18	11.3																								
41-45	128	80.5																								
Total	159	100.0																								

Table I.4.f. Summary of BBH 410 and Assignment Selected to Represent Meeting Program Objective 1, and 2.

Course	<i>BBH 410: Developmental and Health Genetics, Spring, 2015, Instructor = D. Vandenberg</i> Prerequisite: <i>BIOL 133, (or BIOL 222), Introduction to Genetics and Evolution, and STAT 200-Introduction to Statistics.</i>																																	
Course Goals	<p>The focus of this course is on genetic influences on complex traits that are relevant to health and development.</p> <ol style="list-style-type: none"> 1. In the first part of the course, aspects of basic genetics are reviewed from the perspective of how genes work in the context of complex traits. This background information is complemented by an introduction to basic study designs and experimental approaches in genetic epidemiology, molecular genetics, and quantitative genetics. 2. The second half of the course focuses on application of these concepts and methods to the investigation of the genetics of health-related conditions. 3. At the end of the course, students will have a fundamental understanding of how multiple genetic and environmental influences interplay to influence health, and the ability to evaluate critically claims of identification of genes that influence complex traits. 																																	
BBH Program Global Learning Objective relevant to this course	<ol style="list-style-type: none"> 1. Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease. 2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 																																	
Assignment selected as a measure of meeting Program Learning Objectives	This course involves lectures and required readings. Twenty-seven quizzes are scheduled to cover readings. For each lecture with a reading from the text there is an associated quiz on ANGEL that must be completed before 9 AM on the day of the lecture.																																	
Notes and student performance on this measure	<p>The 27 ANGEL quizzes are each worth 2 points and collectively comprise 12% of the course grade. The average of the 27 quizzes was selected here to illustrate meeting the program objective. The average score was converted to a percentage and this percentage converted to a grade according to the grading schema for the course.</p> <p>Scores (Spring 2015, N=70)</p> <table border="1"> <thead> <tr> <th>Grade:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>F</td> <td>7</td> <td>10.0</td> </tr> <tr> <td>D</td> <td>3</td> <td>4.3</td> </tr> <tr> <td>C</td> <td>5</td> <td>7.1</td> </tr> <tr> <td>C+</td> <td>6</td> <td>8.6</td> </tr> <tr> <td>B-</td> <td>7</td> <td>10.0</td> </tr> <tr> <td>B</td> <td>8</td> <td>11.4</td> </tr> <tr> <td>B+</td> <td>10</td> <td>14.3</td> </tr> <tr> <td>A-</td> <td>8</td> <td>11.4</td> </tr> <tr> <td>A</td> <td>16</td> <td>22.9</td> </tr> <tr> <td>Total</td> <td>70</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Benchmark:</p> <p>An average percentage score of 76-79 would be a C+ for this assignment. Approximately 79% of students earned a C+ grade-equivalent or better for these quizzes.</p> </div>	Grade:	N	%	F	7	10.0	D	3	4.3	C	5	7.1	C+	6	8.6	B-	7	10.0	B	8	11.4	B+	10	14.3	A-	8	11.4	A	16	22.9	Total	70	100.0
Grade:	N	%																																
F	7	10.0																																
D	3	4.3																																
C	5	7.1																																
C+	6	8.6																																
B-	7	10.0																																
B	8	11.4																																
B+	10	14.3																																
A-	8	11.4																																
A	16	22.9																																
Total	70	100.0																																

Table I.4.g Summary of BBH 417 and Assignment Selected to Represent Meeting Program Objective 3.

Course	<i>BBH 417-Advanced Applications in Health Promotion, Fall 2014, Instructor = S. Branstetter; Prerequisites: BBH 101-Introductiuon to Biobehavioral Health, BBH 310-Research Strategies for Studying Biobehavioral Health, and BBH 316-Foundations, Principles of Health Promotion, and BBH 416-Planning and Implementing Health Promotion Programs,</i>																											
Course Goals	<p>The goal of this class is to expose students to issues related to optimal research design, assessment, measurement, and relevant statistical analyses and interpretation used in impact, process, outcome, and other health promotion and intervention evaluations. Upon completion of the course, students should be able to:</p> <ol style="list-style-type: none"> 1. Understand and apply evaluation planning models as they relate to health promotion programs; 2. Identify evaluations appropriate for different phases of health promotion programs; 3. Understand and apply appropriate research designs for a variety of program evaluations; 4. Be familiar with critical issues relating to assessment, measurement, and data collection in research and program evaluation; and 5. Be familiar with appropriate selection, use, and interpretation of basic statistics relating to program evaluation, including reliability and validity of measurements. 																											
BBH Program Global Learning Objectives relevant to this course	3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public.																											
Assignment selected as a measure of meeting Program Learning Objectives	This class is the third in a sequence of health promotion courses (following BBH 316, and BBH 416). The course conducts a real world health-related evaluation project involving a community-based site. Students are taught preliminary steps in evaluation research through readings, lectures, and written assignments. Typically teams are formed and each team is given a specific evaluation question that reflects a need for the site. Using the readings, material from the lectures and through consultation with the site consultant each team develops a plan to answer one of the site's evaluation questions. The plan typically includes a strategies regarding measurement, a design for the evaluation, and a plan to collect and analyze the data. All procedures are in accordance with standard IRB requirements. The final project consists of a report on the valuation project written by the group and a final reflection section written by each individual group member. The report includes sections for Introduction, Methods and Procedures, Results, Discussion and Summary. The final reflections component consists of the student's personal evaluation of the experience.																											
Notes and student performance on this measure	<p>These components of the courses were selected here to reflect meeting the programs goals: 1) the Recruitment Plan, 2) the Evaluation Report, and 3) the Reflection Component. Together they account for 17% of the course grade. The scores on the three components were summed and this sum is converted to a grade using the grading schema for the course.</p> <p>Scores: (Fall 2014, N = 17)</p> <table border="1"> <thead> <tr> <th>Grade:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>>C</td> <td>1</td> <td>5.9</td> </tr> <tr> <td>C+</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>B-</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>B</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>B+</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>A-</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>A</td> <td>16</td> <td>94.1</td> </tr> <tr> <td>Total</td> <td>17</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Benchmark:</p> <p>A score of 19 would be a C+ for the combined three assignments. At least 94% of students earned a C+ grade-equivalent or better for these assignments.</p> </div>	Grade:	N	%	>C	1	5.9	C+	0	0.0	B-	0	0.0	B	0	0.0	B+	0	0.0	A-	0	0.0	A	16	94.1	Total	17	100.0
Grade:	N	%																										
>C	1	5.9																										
C+	0	0.0																										
B-	0	0.0																										
B	0	0.0																										
B+	0	0.0																										
A-	0	0.0																										
A	16	94.1																										
Total	17	100.0																										

Table I.4.h Summary of BBH 432 and Assignment Selected to Represent Meeting Program Objective 1, 2, and 3.

Course	<i>BBH 432-Biobehavioral Aspects of Stress</i> , Fall 2014, Instructor = I. Shalev; Prerequisites: <i>BBH 101-Introductiuon to Biobehavioral Health and Principles of Health Promotion</i> , <i>BIOL 141-Physiology</i> , and <i>BBH 310-Research Strategies for Studying Biobehavioral Health</i>																																
Course Goals	The goals of this course are to review the relationships between stress and physical, psychological and mental health. The focus is on how psychological stressors affect physiological systems and health. The course objectives are: <ol style="list-style-type: none"> 1. To summarize recent cutting-edge research on the health effects of stress, with special attention to underlying physiological and cellular mechanisms; 2. To introduce research methods currently used to study psychological stress; 3. To describe in detail the health effects of diverse stressors, from daily hassles to natural disasters; 4. To examine stress effects at multiple levels: from cellular function to individual behavior to the society at large; 5. To briefly introduce the most popular types of stress management techniques; and 6. To enhance critical thinking skills, particularly in regards to reading research reports on biological and behavioral factors in health. 																																
BBH Program Global Learning Objectives relevant to this course	<ol style="list-style-type: none"> 1. Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease. 2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public. 																																
Assignment selected as a measure of meeting Program Learning Objectives	This course uses four exams to assess student knowledge on the subject matter. Four exams are scheduled. Each exam covers lectures and information from the text. The four collectively worth 200 points and account for 100% of the grade. The scores were converted to grades according to the grading schema for the course (A = grade distribution																																
Notes and student performance on this measure	<p>The distribution of the total grade was selected to represent meeting the program objectives. (Fall 2014, N = 103)</p> <table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th>Grade:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>6</td> <td>5.9</td> </tr> <tr> <td>C</td> <td>0</td> <td>0.0</td> </tr> <tr> <td>C+</td> <td>1</td> <td>1.0</td> </tr> <tr> <td>B-</td> <td>13</td> <td>12.6</td> </tr> <tr> <td>B</td> <td>20</td> <td>19.4</td> </tr> <tr> <td>B+</td> <td>20</td> <td>19.4</td> </tr> <tr> <td>A-</td> <td>21</td> <td>20.4</td> </tr> <tr> <td>A</td> <td>22</td> <td>21.4</td> </tr> <tr> <td>Total</td> <td>103</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; display: inline-block;"> <p>Benchmark:</p> <p>A percentage score of 76-79 would be a C+ for the exams. Approximately 94% of students earned a C+ grade-equivalent or better for the exams.</p> </div>			Grade:	N	%	D	6	5.9	C	0	0.0	C+	1	1.0	B-	13	12.6	B	20	19.4	B+	20	19.4	A-	21	20.4	A	22	21.4	Total	103	100.0
Grade:	N	%																															
D	6	5.9																															
C	0	0.0																															
C+	1	1.0																															
B-	13	12.6																															
B	20	19.4																															
B+	20	19.4																															
A-	21	20.4																															
A	22	21.4																															
Total	103	100.0																															

Table I.4.i. Summary of BBH 440 and Assignment Selected to Represent Meeting Program Objective 1, 2, 3, 4 and 5.

Course	<i>BBH/HPA 440-Principles of Epidemiology, Fall '14, Instructor= F. Ahern</i> Prerequisites: <i>BBH 101-Introduction to Biobehavioral Health or HPA 310-Health Care and Medical Needs; STAT 200/250-Introduction to Statistics/Biostatistics.</i>																					
Course Goals	Upon completion of this course students should be able to: 1) recognize and use basic principles, concepts, terminology, and techniques in Epidemiology; 2) be able to interpret and critique epidemiological research reports; and 3) have a basic understanding of the epidemiology of the major causes of morbidity and mortality in the U.S. and globally.																					
BBH Program Global Learning Objectives relevant to this course	1. Describe and understand the fundamental biological, behavioral, social, cultural and environmental processes that influence health and disease. 2. Explain how the fundamental processes underlying health and disease can interact to produce individual differences in health, and health disparities among groups. 3. Critically evaluate current empirical research on health and disease, explaining implications and limitations to the lay public. 4. Understand and apply ethical principles in the conduct of research and professional practice and in the analyses in implementations of health-related policies and programs. 5. Plan, implement, and evaluate health promotion/disease prevention programs for diverse populations.																					
Assignment selected as a measure of meeting the Program Learning Objectives	Assignment 2: Epidemiology of _____ (abridged summary of assignment follows based on class materials). 1. Develop a summary report of epidemiologic variability for a non-communicative (e.g., chronic) disease of your choice. 2. Report on differences in incidence and prevalence according to the following: time (historic change), age, race, gender, and place (e.g., country, urban-rural, etc.). 3. Provide evidence for reasons for epidemiologic variability considering biological, sociological, cultural, environmental and other significant explanatory factors. 4. Provide evidence for prevention and treatment strategies if available and comment on reasons for success or failure. 5. Report on any controversies or issues related to the disease that impact epidemiologic variability																					
Notes and student performance on this measure	This was the second of two assignments requiring a report on descriptive and analytical epidemiological evidence (the first was the same assignment for an infectious disease). This assignment was worth 10% of total grade. The first assignment was graded with appropriate feedback on quality and content and therefore the results of this assignment are thought to better reflect meeting the program goals. Scores: (Fall 2014, N = 166; 10 points maximum) <table border="1"> <thead> <tr> <th>Score:</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>0-6</td> <td>10</td> <td>6.0</td> </tr> <tr> <td>7</td> <td>1</td> <td>4.2</td> </tr> <tr> <td>8</td> <td>5</td> <td>3.0</td> </tr> <tr> <td>9</td> <td>17</td> <td>10.2</td> </tr> <tr> <td>10</td> <td>133</td> <td>80.1</td> </tr> <tr> <td>Total</td> <td>166</td> <td>100.0</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Benchmark:</p> <p>A score of 8 would be a C+ for this assignment. At least 95% students earned at least a C+ grade-equivalent or better for this assignment.</p> </div>	Score:	N	%	0-6	10	6.0	7	1	4.2	8	5	3.0	9	17	10.2	10	133	80.1	Total	166	100.0
Score:	N	%																				
0-6	10	6.0																				
7	1	4.2																				
8	5	3.0																				
9	17	10.2																				
10	133	80.1																				
Total	166	100.0																				

Discussion on Course-specific Measures of Meeting BBH Program Global Learning Objectives

The results of using course-specific measures as indicators of meeting the BBH Program Global Learning Objectives were very positive. For nearly every one of the 8 course-specific assignments or exam results, 90% or more of students met or exceeded the benchmark of getting at least a C+ on the assignment. The sole exceptions were for BBH 311- *Interdisciplinary Integration in Biobehavioral Health* in which 86% of students met the benchmark and BBH 410-Genetics and Health in which 79% of students met the benchmark. These latter courses are known to be difficult courses in the BBH program.

In summary, these results on the course-specific measures support the conclusion made for the self-assessments that were based on the BBH Senior Exit Survey and the Alumni Survey, namely that the BBH Program shows strong evidence for meeting the program's learning goals.

I.5 BBH Programmatic Changes AY14/15

I.5.a. Course Related. Programmatic changes have been made--or planned to be made--in AY14/15 in the content and format of several of our courses based on feedback and results from past BBH Program Assessment Plan Updates. The following course-related changes are organized by course with the major Global Learning Objectives relevant to that course enumerated.

BBH 101 (Objectives 1, 2, 3, 4, and 5). *BBH 101-Introduction to Biobehavioral Health* (GHA) is the introductory required core course for BBH majors and is also used by non-majors to meet the PSU Health and Activity General Education Requirement. The format of the course is as a large lecture course meeting twice a week with once-a-week small (N = 25 students) practicum sections (N = 10-12 sessions) with some sections for majors-only and some for non-majors. Because of scheduling and growth of the major, we moved BBH 101 to a "Majors Only" course in the Spring of 2015. We have re-evaluated the need for multiple practica sessions and plan to eliminate the practica session for the Spring of 2016. The results of this change will be evaluated over the next several semesters.

BBH 316, BBH 416, BBH 417. These courses are all related to health promotion (BBH Global Program Learning Objective # 5 but include materials relevant to Objectives 2, 3, and 4). BBH 316 is a survey course in Health Promotion covering the basics of planning, implementation and evaluation of health promotion and disease prevention programs. BBH 416 is more focused on practical and applied aspects of performing a needs assessment, and planning and implementing a health promotion program to a targeted at-risk group, and BBH 417 is more focused on evaluation methodology. Based on the need to develop more opportunities for student's "community engagement" BBH is moving toward expanding opportunities for students in these courses to engage in practical health promotion activities with local community social service agencies and business entities.

Other courses. BBH continues to examine the breadth and depth of the curriculum. For the Fall '14 we added an experimental course, *BBH 497-Environmental Effects on Health*. The course was well received by the students and is considered by the faculty to add an important component to the BBH curriculum. We expect to develop this course further and offer it as a permanent course in the electives category. For the Spring '16 semester we will be developing courses relating to children's health, and child maltreatment and health and to offer these courses as experimental courses.

BBH has engaged in continuous evaluation of the curriculum in relation to the program goals and objectives and also to the career-related aspirations of the students in the major. BBH has reviewed its curriculum and has submitted a P-3 proposal to make appropriate changes and updates. This proposal will make the BBH 301w (Ethics) course a requirement for the major in substitution for BBH 411 (Research Strategies) which will continue as a required course but which will not have the “w” designation. The proposal also makes changes to promote better opportunities for students to prepare for health promotion careers by adding courses to the Additional Courses category in the curriculum (e.g., *Select 3 credits from among CHEM 101, CHEM 110, MICRB 106, or BIOL 230W*).

I.5.b. Other Program Changes. Programmatic changes have been made--or planned to be made—with respect to other aspects of the BBH undergraduate program. The following brief description of these changes that we feel enhance the BBH Program.

Adoption of a professional advisor model. In the past BBH’s advisors were half-time instructors of BBH courses. Because of the increased growth of the major, BBH decided to move to a full-time advisor model wherein advisors have no teaching roles. BBH now has two full-time academic advisors. This has significantly increased the availability of advising to students. The new academic advisors have also instituted several changes to the advising procedures that make the advising services more efficient for student scheduling.

Internship Program. In our AY 13/14 Assessment Report we discussed one of the most significant changes in the BBH major: the authorization to implement an optional BBH Internship Program. We are pleased to report here that for AY 14/15 we now have a working internship program with approximately 25 students doing internships during the summer of 2015. We expect to continue to expand the number of internship sites, and the number of interning students.

Undergraduate Teaching Interns. For the Fall ’13 semester we initiated a program to allow BBH undergraduates to serve as Teaching Assistants for BBH courses. We have changed the designation to Teaching Interns (TIs) to better reflect our expanded view of their role and responsibilities. In the past academic year we expanded this program of having undergraduates serve as course TIs including: 1) Establishing criteria for applicants (e.g., previously taken the course with a grade of A or A-); 2) Establishing a formal training program for all applicants (e.g., professionalism as a TI, mandated online FERPA privacy training, training on relevant PSU Policies) and 3) establishing procedures for monitoring and assessing TI performance (e.g. mid-semester TI evaluations). For the Fall ’15 semester we expect to enroll over 35 students who will provide TI services for more than 10 separate BBH courses. Based on discussions with faculty and students, the program was very well-received and praised by both faculty and students.

Part II: BBH Data Collection-AY 15/16

II.1. Data to be Collected or Analyzed.

Senior Exit Survey. BBH continues to consider the Senior Exit Survey as a valuable source of information not only for the assessment of the Learning Objectives but also to provide critical

information for the overall management and conduct of the undergraduate program. We intend to continue fielding the *Senior Exit Survey* for each future graduating class by semester of graduation (Spring, Summer, and Fall). We will seek resources to concatenate surveys according to calendar year to reduce sampling variability.

Alumni Survey. Results from the Alumni Survey will be further analyzed to develop summary ratings and catalogue open-ended comments according to alumni career groups (e.g., medical professions, health promotion professions, etc.) to provide more information on how to enhance the BBH educational experience. The alumni survey also contained a section to allow alumni to volunteer for greater involvement in the BBH program; we hope to take advantage of these volunteers to assist in better career advising.

Finally, we will expand our efforts to evaluate and address several of the low ratings for the 9 BBH Area-specific Objectives (e.g., *International/Global Perspectives and Health*) and the 6 Objectives relating to *Other Skills and Abilities* (e.g. Computer and Software Skills...). We will attempt to identify and map course-specific assignments onto these objectives and report on student performance for each of these 15 sub-objectives as further evidence of meeting the Global Learning Objectives.