Pir Mehr Ali Shah

Arid Agriculture University, Rawalpindi

Self-Assessment Report for Department of Food and Nutritional Sciences

Barani Institute of Sciences Burewala

Session: 2020-2022

Coordinator: Mr. Suhail Akraam

Convener: Ms. Farah Tawakkal

Members: Ms. Shakila Anwar, Ms. Munazza

Table of Contents

LIST OF TABLES

INTRODUCTION

Barani Institute of Sciences (BIS) is an affiliate of Pir Mehr Ali Shah, Arid Agriculture University Rawalpindi. It was established in 2014 with the aim of providing a high-quality education to our youth in the fields of Life Sciences, Computer Sciences, Food Sciences, Management Sciences and Social/Natural Sciences etc. As a nascent institution, BIS is in the process of establishing itself as one of the leading institutions in the country. Therefore, the institution ought to become operationally efficient and more effective in achieving its objectives through excellent education, increased productivity and more knowledge driven work processes and practices. Today, we can rightly claim with immense satisfaction and gratitude before Almighty Allah that we have managed to conform to our standards and policies. We have successfully laid out an inordinate amplitude of requisite facilities which are available on the campus to meet the multifarious requirements of our students. However, like any dynamic organization, our quest for excellence continues unabated and we are continually on the look-out for measures to improve our existing standards. In line with our basic policy of 'Quality Education for All', our doors are open to all individuals regardless of their religion, race or class and we remain committed to extend our facilities to any Pakistani youth desirous of attaining quality education. BIS provides a very conducive teaching environment (through the air-conditioned classrooms, elaborate workshops and laboratories, and a reasonably diverse and rich library). BIS strongly feels that while theoretical education is the scarlet thread which builds the base for higher learning, Creativity and Imagination are equally important for further academic advancement. Surely, it is the “wanting to know” which eventually results in “getting to know”. Hence, our foremost endeavor is to agitate the young minds in a manner that the spark of inquisitiveness is kindled and the ability to question and seek answers is generated. In addition to imparting high-quality education, “character building” and “personality development” figure very high on our priority list. Grooming the youth to become responsible citizens and inculcating a spirit of mental as well as physical self-discipline is vital for the uplift of any society. It is, therefore, our utmost effort to mold our students into disciplined, motivated, and polished members of the community.

CRITERION-1: PROGRAM MISSION, OBJECTIVES AND OUTCOMES

The self-assessment is based on several criteria. To meet each criterion several standards must be satisfied. This section describes how the standards of the Criterion 1 are met.

Standard 1-1:

The program must have documented measurable objectives that support institution mission statements.

Mission statement (BIS)

We are committed to:

- Delivering brilliance in teaching and learning
- Enhancing students learning experience through investments in infrastructure, facilities, resources and their well being
- Giving talented & deserving students access to quality higher education by providing them generous scholarships and loans
- Developing life skills of students by making them participate in co-curricular and extra-curricular activities
- Working in partnership with the community and local Govt. organizations to help students learn concepts of tolerance, social justice, democracy, cultural values and national ideology by organizing seminars, walks and other activities

Mission statement (Food and Nutritional Sciences- BS HND)

To train manpower in the area of nutritional sciences to apply it in order to promote the health of the Pakistani Population. As a dietitian trained man force will work with people to help them modify their food intake, offering practical advice to enable them to make dietary change.
Documented measurable objectives of the program are as under:

- The training of the next generation of nutrition scientists.
- The transmittal of nutrition knowledge to our nation's citizenry.
- Development of strategies for the prevention of different metabolic disorders

Main elements of strategic plan to achieve mission and objectives

- We follow Differentiation Strategy by nurturing a distinctive competence of quality education.
- We achieve differentiation by hiring visiting faculty from industry having strong

Theoretical background, practical expertise, and repute and also by development of permanent faculty.

- We differentiate ourselves by introducing modern disciplines (subjects).
- We conduct Study tours and Clinical Rotations at small scale to develop deep theoretical understanding.
- We orientate all the employees how his or her job can affect the learning process of students and quality of education.

Table 1: Program Objective Assessment (BS HND)

Objectives	**How Measured**	**When Measured**	**Improvement Needs Identified**	**Improvement Made**
1- The training of the nex generation of nutritio scientists.	Through exams quizzes, presentation ndassignments	During and at the end o each semester	difficulty in writing skills wr	Emphasis on reading iting and languag earning.
2- The transmittal of nutrition knowledge to our nation's citizenry.	Through study of case analysis, articles, informative camps and tours in peripheral areas.	During the semester	Visits and tours to actual areas with deficient knowledge and practice of balanced nutrition.	Introduction of different dimensions of Nutrition and Real Case studies related to nutrition.
3- Development of strategies for the prevention of different metabolic disorders	Case studies, reports and analysis related to various metabolic disorders in groups.	During the semester	Lack of confidenceand problems related to group conflicts	Practicing group leadership and resolving conflicts and focus on group project report

Program Learning Outcomes

All the students in BS HND program should be able to:

- Communicate well through presentations, oral discussions, review articles etc.
- Use enhanced knowledge and vision
- Apply basic knowledge of respective course subjects
- Use analytical skills for understanding broader issues
- Develop innovative mindset
- Pursue higher study

theoretical background, practical expertise, and repute and also by development of permanent faculty.

We differentiate ourselves by introducing modern disciplines (subjects).

We conduct Study tours and Clinical Rotations at small scale to develop deep theoretical understanding.

We orientate all the employees how his or her job can affect the learning process of students and quality of education

Standard 1-2:

The program must have documented outcomes for graduating students. It must be documented that the outcomes support the program objectives and that graduating students are capable of performing these outcomes.

As the Food and Nutritional Sciences department (BS HND) and department of Biochemistry and Biotechnology (BS Biochemistry) commenced in FALL 2021, so none of the batches have graduated yet. This specific objective is not applicable to the department for now.

Standard-1-3:

The results of the program's assessment and the extent to which they are used to improve the program must be documented

The Results of program's assessment

Teacher Evaluation

Barani Institute of Sciences (BIS) offers Bachelor of Human Nutrition and Dietetics in Food and Nutritional Sciences Department and Bachelor of Biochemistry in Biochemistry and Biotechnology Department. The departments consist of 03 full time and 07 visiting faculty members along with 01 lab Lab-In charges. All of the faculty holds relevant academic degrees and are qualified in teaching at this level. The courses are carefully formulated, and appropriate teaching methodology is adopted. Full time faculty holds higher degrees. BIS has also hired Visiting Faculty Members to manage the workload and improve the quality education. Furthermore, the process of improving the level of education for full time faculty is being emphasized and the faculty is encouraged to acquire higher qualifications.

12 courses are taught for BS HND and 6 courses for BS Biochemistry during the Spring- 2022 session by permanent and visiting faculty members. All these teachers were evaluated by the students at the end of the semesters in accordance with Teachers' Evaluation Proforma. The results are graphically presented on the following pages. Detail of individual performance of each teacher is illustrated with the help of a bar chart. Following is the list of questions asked in the teacher's evaluation Performa. The bar chart describes the teacher's evaluation for each question.

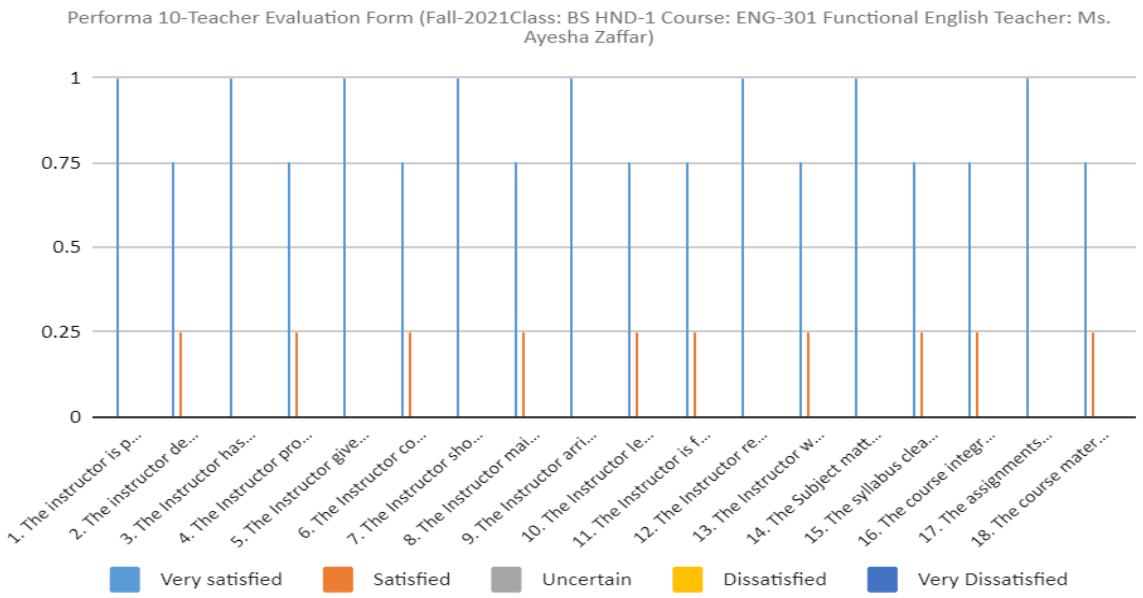
S No.	Questions
Q1	Instructor's preparedness for each class?
Q2	Instructor demonstrate knowledge of the subject?
Q3	Whole course is completed?
Q4	Provision of additional material apart from text?
Q5	Citations are given according to current situations in Pakistan?
Q6	Subject matter communicated effectively?
Q7	Students are shown respect and encouraged for class participation?
Q8	Conducive environment maintained?
Q9	Timely arrival for class?
Q10	Class is left on time?
Q11	Fair examination?
Q12	Graded scripts are returned in a reasonable time?
Q13	Instructor was available for after class consultation?
Q14	Subject matter has increased students' knowledge of the subject?
Q15	Course objective requirements, procedures and grading criteria are clearly stated?
Q16	Integration of theoretical concepts with real world applications?
Q17	Assignments and exams cover the material presented in the course?
Q18	Course material is modern and updated?

Program Assessment Results

This section contains the Teacher Assessment and Student Course Evaluation in summarizing form as well as in detail form.

Teacher Evaluation

Ayesha Zaffar (HND-1, Functional English, ENG-301)



	Performa 10-Teacher Evaluation Form (Fall 2021) Class: BS HND-1 Course: ENG-301 Functional English Teacher: Ms. Ayesha Zaffar					
	Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
	1. The instructor is prepared for each class.	100%	0%	0%	0%	0%
	2. The instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
	3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
	4. The Instructor provides additional material apart from the text book .	75%	25%	0%	0%	0%
	5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
	6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
	7. The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
	8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
	9. The Instructor arrives on time.	100%	0%	0%	0%	0%
	10. The Instructor leaves on time.	75%	25%	0%	0%	0%
	11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
	12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
	13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
	14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
	15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
	16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
	17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
	18. The course material is modern and updated.	75%	25%	0%	0%	0%

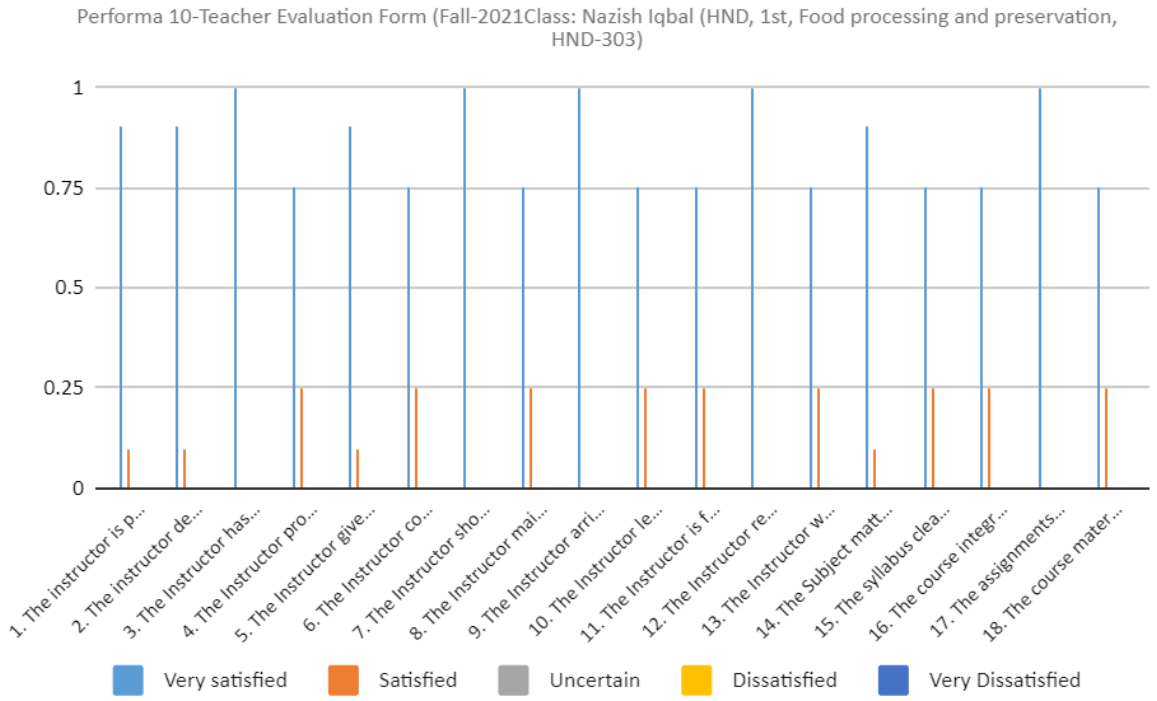
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found

Nazish Iqbal (HND, 1st, Food processing and preservation, HND-303)



	Performa 10-Teacher Evaluation Form (Fall 2021) Nazish Iqbal (HND, 1st, Food processing and preservation, HND-303)					
	Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
	1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
	2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
	3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
	4. The Instructor provides additional material apart from the textbook .	75%	25%	0%	0%	0%
	5. The Instructor gives citations regarding current situations with reference to Pakistani context.	90%	10%	0%	0%	0%
	6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
	7. The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
	8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
	9. The Instructor arrives on time.	100%	0%	0%	0%	0%
	10. The Instructor leaves on time.	75%	25%	0%	0%	0%
	11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
	12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
	13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
	14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
	15. The syllabus clearly states course objectives requirements,	75%	25%	0%	0%	0%

	procedures and grading criteria.					
	16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
	17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
	18. The course material is modern and updated.	75%	25%	0%	0%	0%

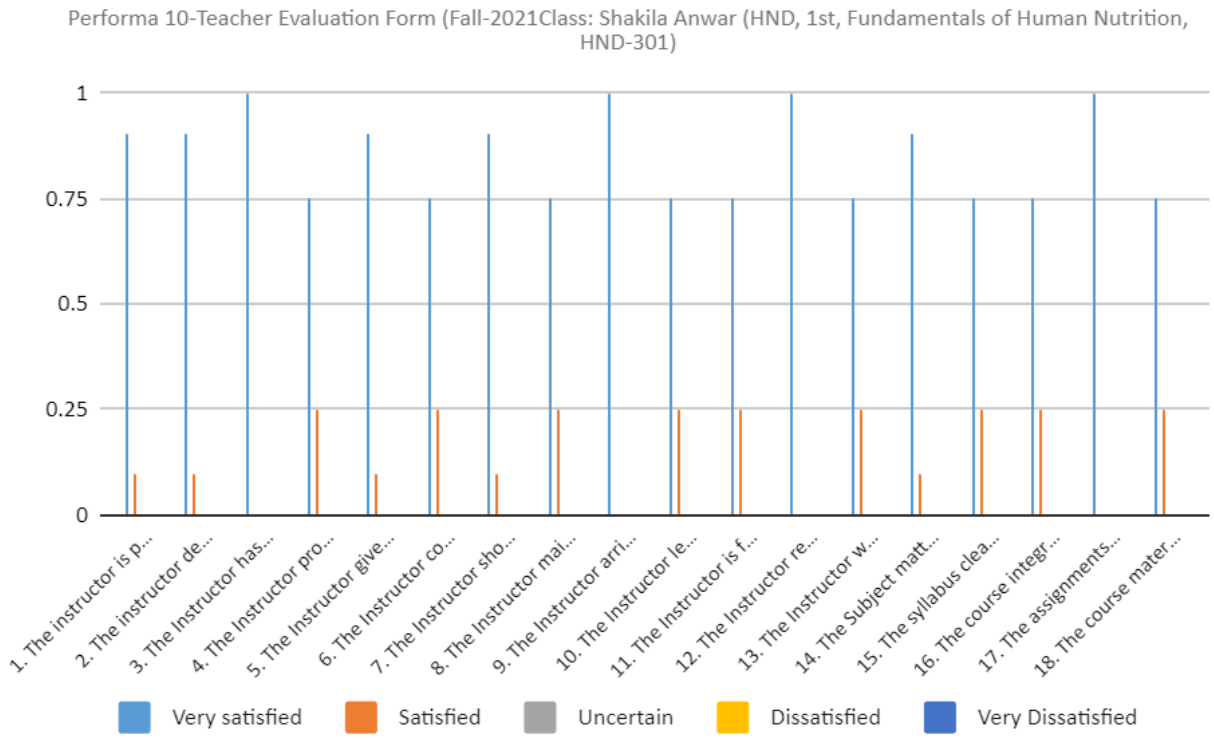
General Comments of the Students about the Teacher Strengths:

- Well-rehearsed
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found

Shakila Anwar (HND, 1st, Fundamentals of Human Nutrition, HND-301)



Performa 10-Teacher Evaluation Form (Fall 2021) Shakila Anwar (HND, 1st, Fundamentals of Human Nutrition, HND-301)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	90%	10%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class	90%	10%	0%	0%	0%

participation					
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

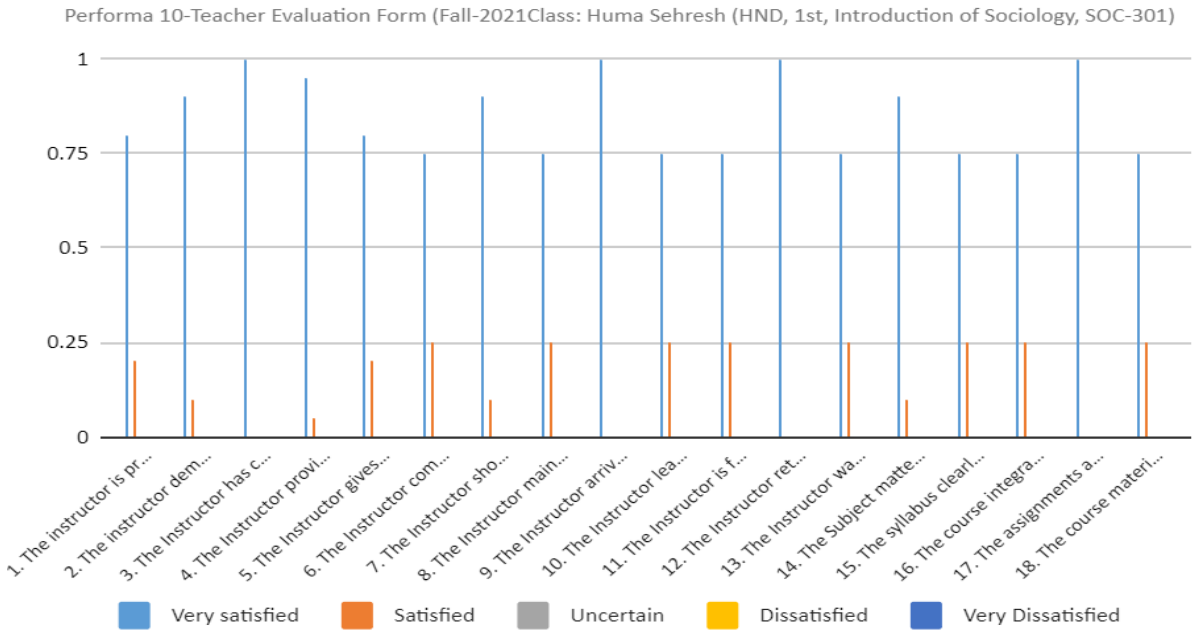
General Comments of the Students about the Teacher Strengths:

- Well-rehearsed
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found

Huma Sehresh (HND, 1st, Introduction of Sociology, SOC-301)



Performa 10-Teacher Evaluation Form (Fall 2021) Huma Sehresh (HND, 1st, Introduction of Sociology, SOC-301)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	20%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
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16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

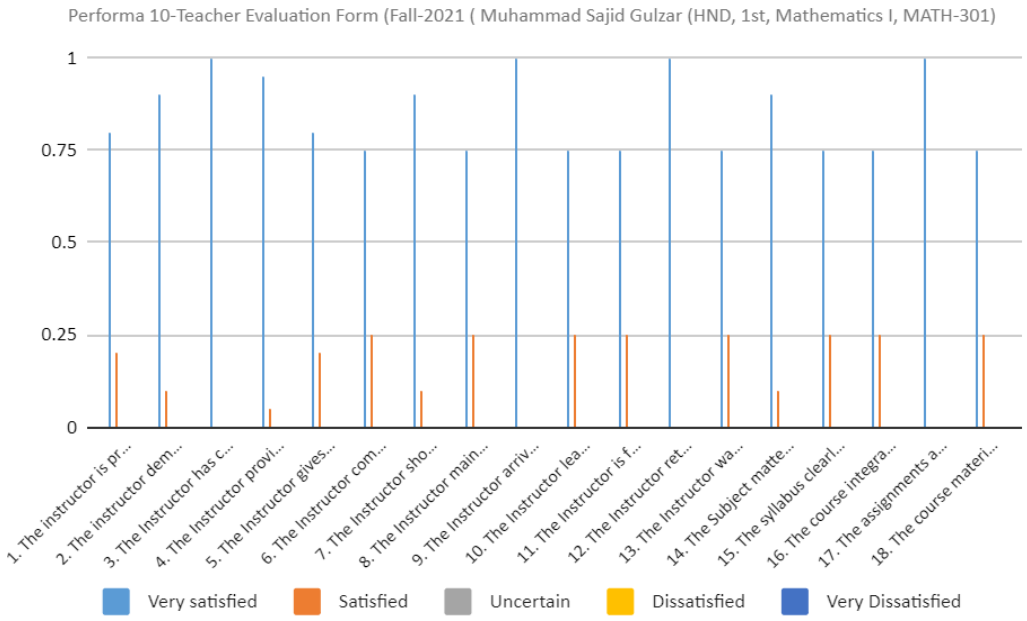
General Comments of the Students about the Teacher Strengths:

- Communicates effectively
- Punctual
- Fair in examination

Weakness:

- No significant weakness was found

Muhammad Sajid Gulzar (HND, 1st, Mathematics I, MATH-301)



Performa 10-Teacher Evaluation Form (Fall 2021) Muhammad Sajid Gulzar (HND, 1st, Mathematics I, MATH-301)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	20%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the	100%	0%	0%	0%	0%

course.					
18. The course material is modern and updated.	75%	25%	0%	0%	0%

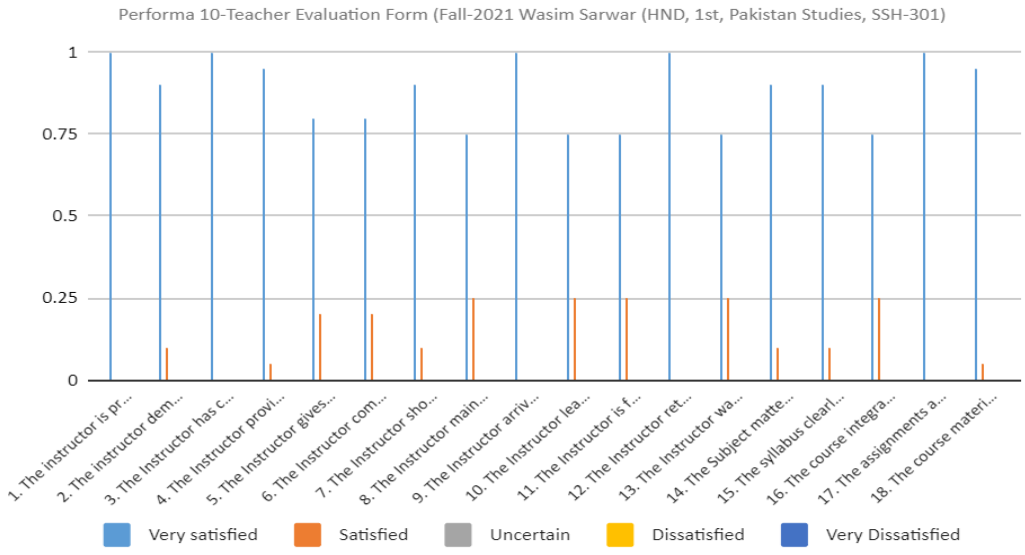
General Comments of the Students about the Teacher Strengths:

- Maintains conducive environment
- Respects students
- Well-rehearsed
- Fair in examination
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found
-

Wasim Sarwar (HND, 1st, Pakistan Studies, SSH-301)



General Comments of the Students about the Teacher Strengths:

- Good pace
- Encourages class participation

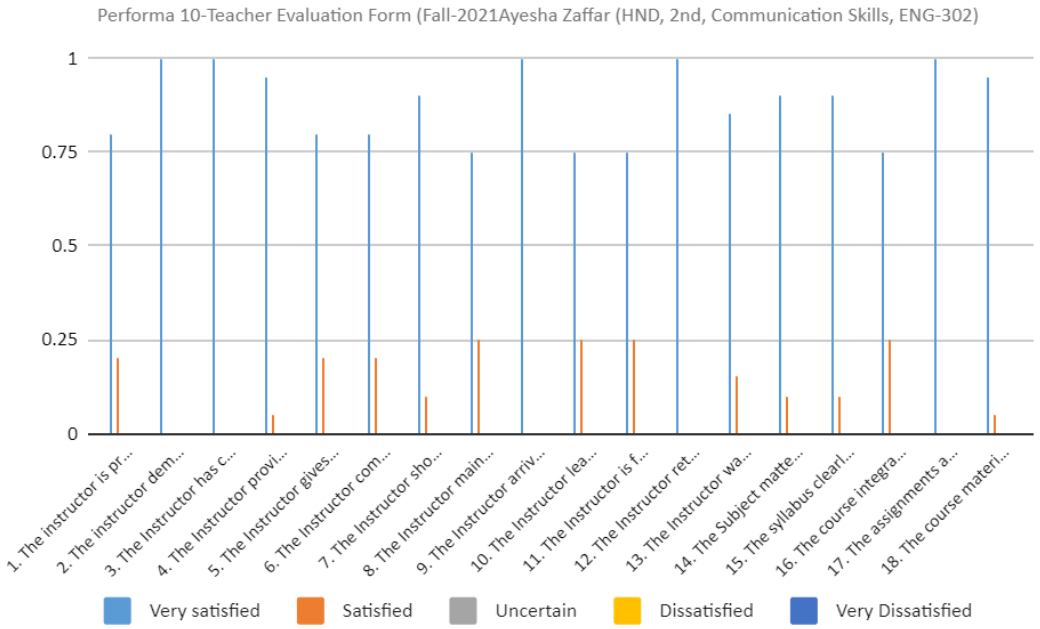
Performa 10-Teacher Evaluation Form (Fall 2021) Wasim Sarwar (HND, 1st, Pakistan Studies, SSH-301)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	100%	0%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	20%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	95%	5%	0%	0%	0%

- Respects Students

Weakness:

- No significant weakness was found

Ayesha Zaffar (HND, 2nd sem, Communication Skills, ENG-302)



Performa 10-Teacher Evaluation Form (Fall 2021) Ayesha Zaffar (HND, 2nd sem, Communication Skills, ENG-302)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	20%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	20%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	85%	15%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	95%	5%	0%	0%	0%

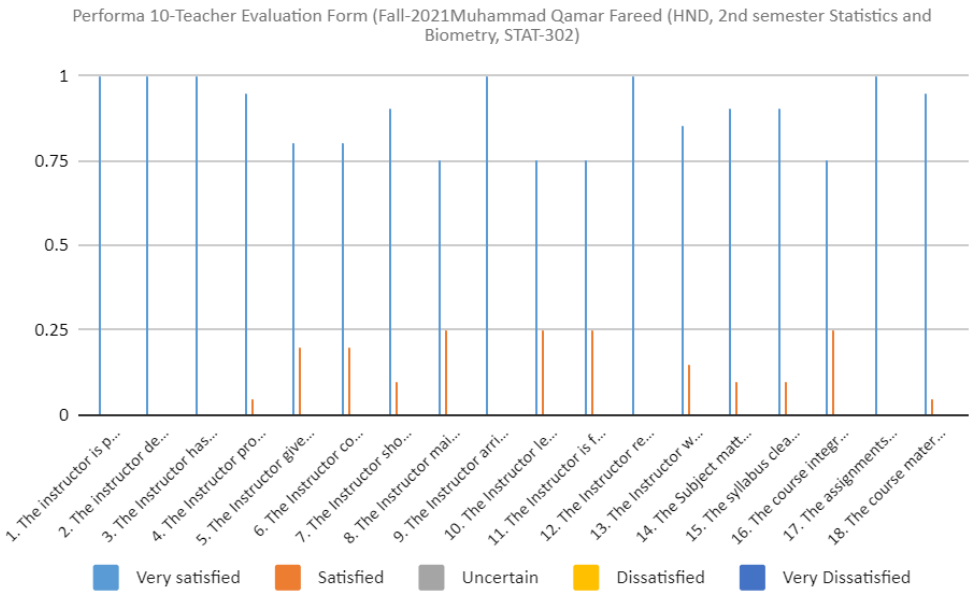
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students

Weakness:

- Not punctual in arriving to the classroom

Muhammad Qamar Fareed (HND, 2nd sem, Statistics and Biometry, STAT-302)



Performa 10-Teacher Evaluation Form (Fall 2021) Muhammad Qamar Fareed (HND, 2nd sem, Statistics and Biometry, STAT-302))					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	100%	0%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	20%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	85%	15%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the	100%	0%	0%	0%	0%

course.					
18. The course material is modern and updated.	95%	5%	0%	0%	0%

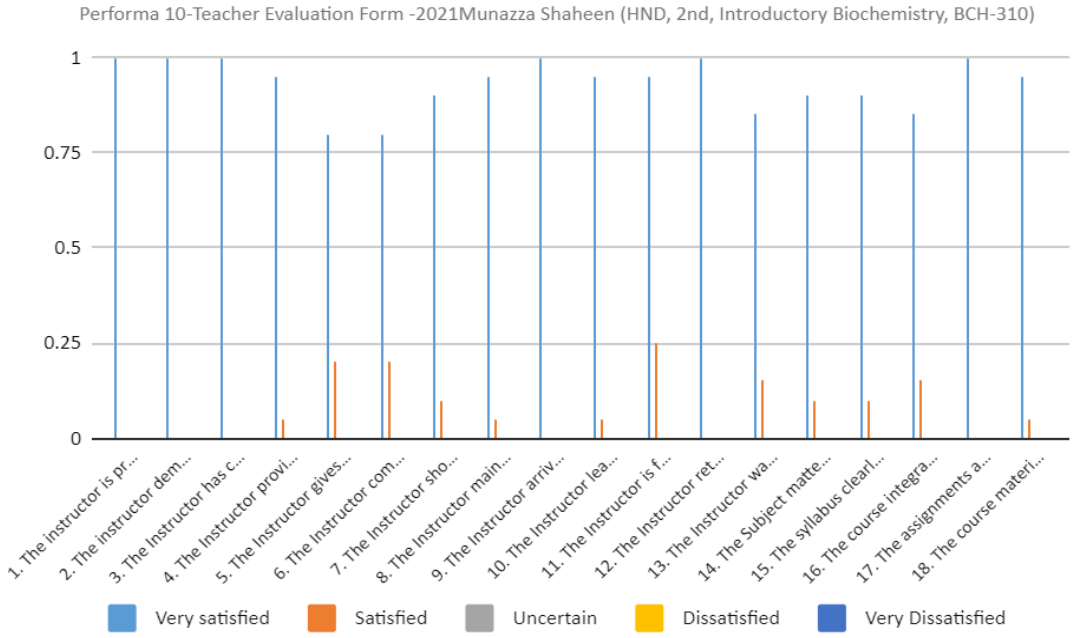
General Comments of the Students about the Teacher Strengths:

- Demonstrates knowledge of subject
- Punctual
- Respects Students

Weakness:

- Graded receipts on returned on time

Munazza Shaheen (HND, 2nd, Introductory Biochemistry, BCH-310)



Performa 10-Teacher Evaluation Form (Fall 2021) Munazza Shaheen (HND, 2nd, Introductory Biochemistry, BCH-310)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	100%	0%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	100%	0%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the textbook .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	20%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	95%	5%	0%	0%	0%

9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	95%	5%	0%	0%	0%
11. The Instructor is fair in examination.	95%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	85%	15%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	85%	15%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	95%	5%	0%	0%	0%

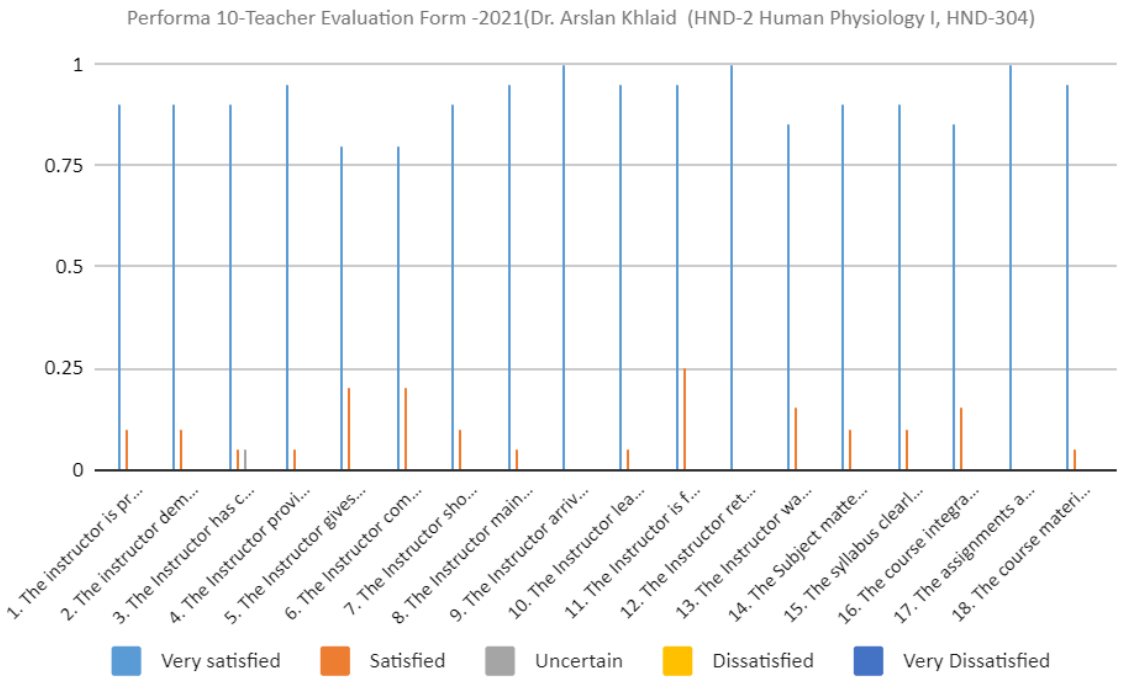
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Communicated effectively
- Punctual

Weakness:

- Not available for after class consultation

Dr. Arslan Khlaid (HND-2 Human Physiology I, HND-304)



Performa 10-Teacher Evaluation Form (Fall 2021) Dr. Arslan Khlaid (HND-2 Human Physiology I, HND-304)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	90%	5%	5%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	20%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	95%	5%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	95%	5%	0%	0%	0%
11. The Instructor is fair in examination.	95%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	85%	15%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	85%	15%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	95%	5%	0%	0%	0%

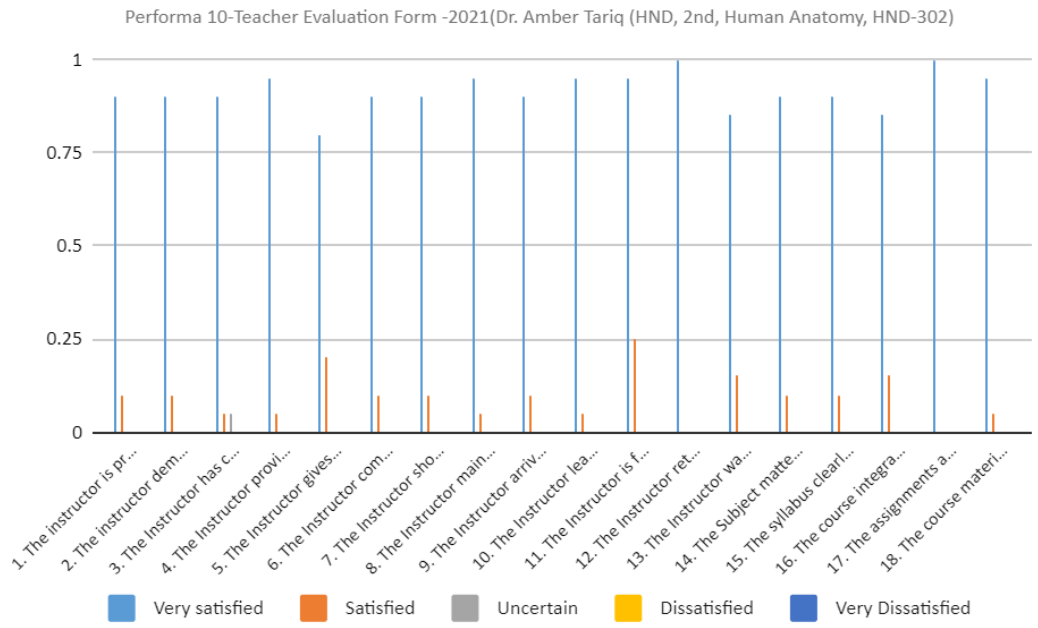
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students
- Demonstrates knowledge of subject

Weakness:

- Course material requires updation

Dr. Amber Tariq (HND, 2nd, Human Anatomy, HND-302)



Performa 10-Teacher Evaluation Form (Fall 2021) Dr. Amber Tariq (HND, 2nd, Human Anatomy, HND-302)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	90%	5%	5%	0%	0%
4. The Instructor provides additional material apart from the text book .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	90%	10%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	95%	5%	0%	0%	0%
9. The Instructor arrives on time.	90%	10%	0%	0%	0%
10. The Instructor leaves on time.	95%	5%	0%	0%	0%
11. The Instructor is fair in examination.	95%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	85%	15%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	85%	15%	0%	0%	0%

17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	95%	5%	0%	0%	0%

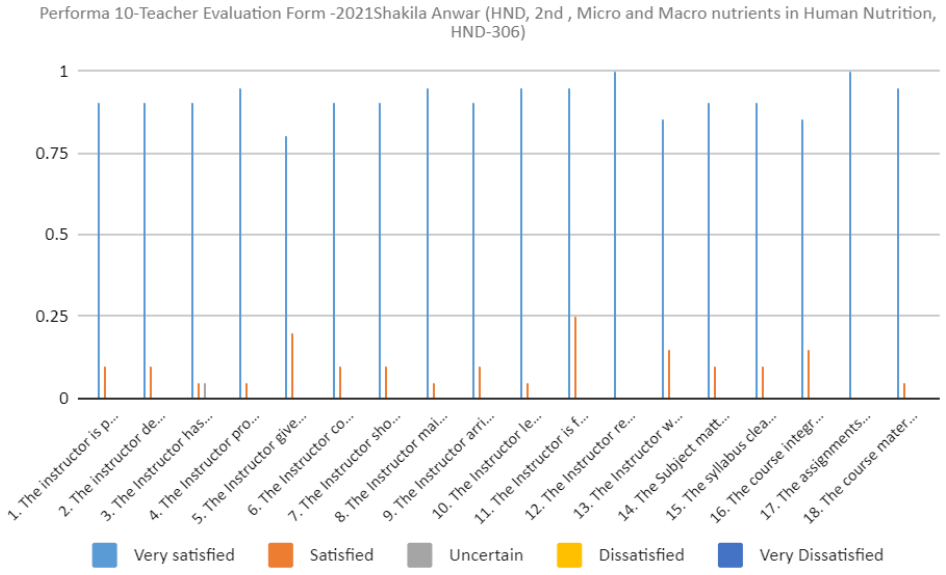
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students
- Demonstrates knowledge of subject

Weakness:

- Subject matter is not communicated effectively

Shakila Anwar (HND, 2nd , Micro and Macro nutrients in Human Nutrition, HND-306)



Performa 10-Teacher Evaluation Form (Fall 2021) Shakila Anwar (HND, 2nd , Micro and Macro nutrients in Human Nutrition, HND-306)					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	90%	5%	5%	0%	0%
4. The Instructor provides additional material apart from the textbook .	95%	5%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	80%	20%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	90%	10%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%

8. The Instructor maintains an environment that is conducive to learning.	95%	5%	0%	0%	0%
9. The Instructor arrives on time.	90%	10%	0%	0%	0%
10. The Instructor leaves on time.	95%	5%	0%	0%	0%
11. The Instructor is fair in examination.	95%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	85%	15%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	90%	10%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	85%	15%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	95%	5%	0%	0%	0%

General Comments of the Students about the Teacher Strengths:

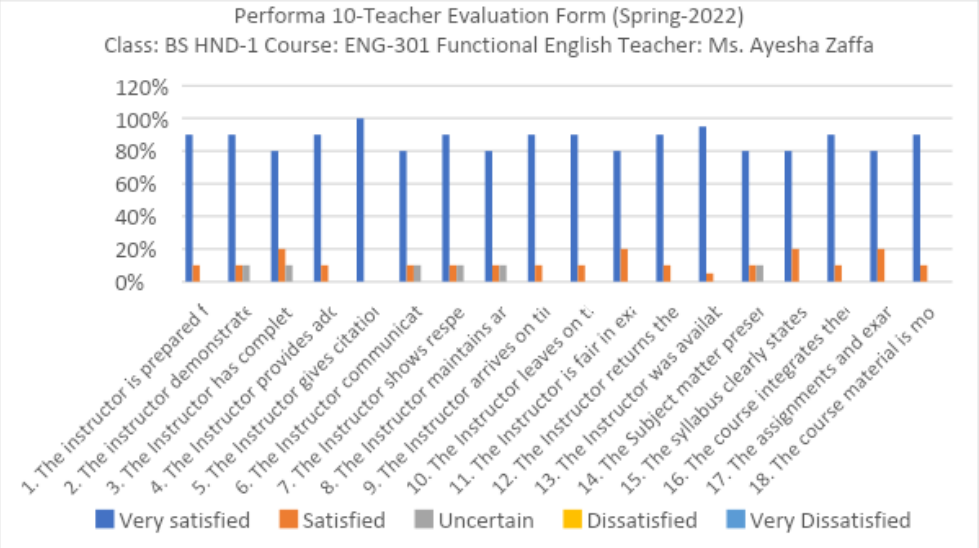
- Well-rehearsed
- Punctual
- Updated with recent happenings and events

Weakness:

- No significant weakness was found

Spring 2022

Ayesha Zaffar (HND-1, Functional English, ENG-301)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-1 Course: ENG-301 Functional English Teacher: Ms. Ayesha Zaffar					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	1%	0%	0%
3. The Instructor has completed the whole course.	80%	10%	10%	0%	0%
4. The Instructor provides additional material apart from the text book.	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	90%	10%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	90%	10%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	90%	10%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	100%	0%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	80%	20%	0%	0%	0%
18. The course material is modern and updated.	90%	10%	0%	0%	0%

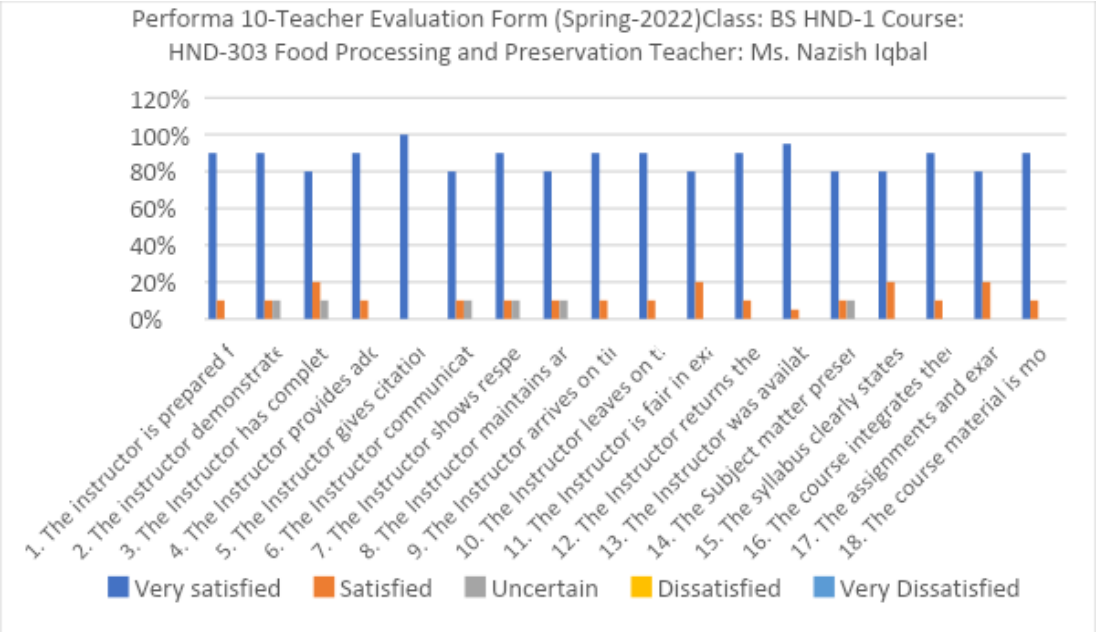
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found

Nazish Iqbal (HND, 1st, Food processing and preservation, HND-303



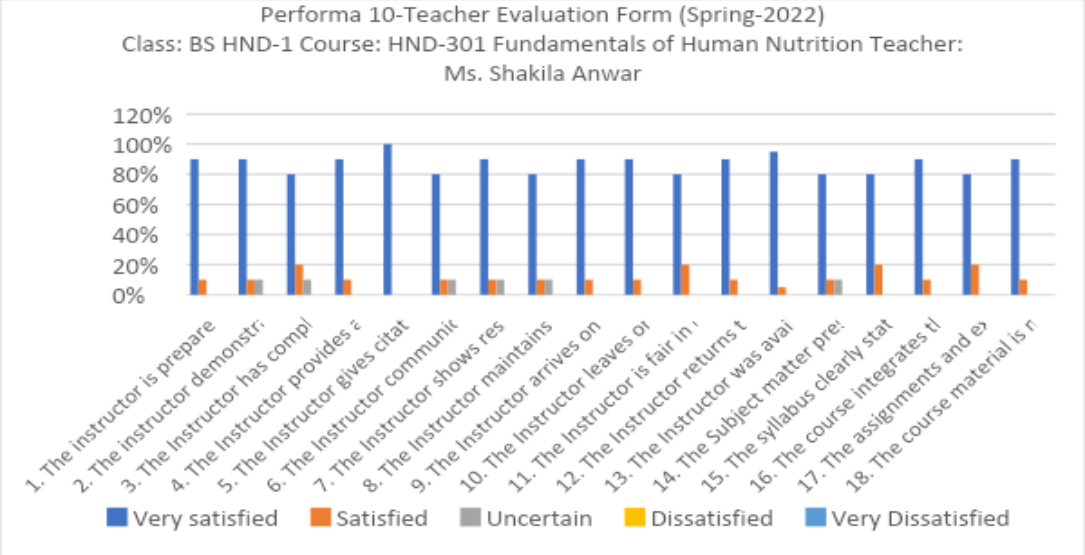
Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-1 Course: HND-303 Food Processing and Preservation Teacher: Ms. Nazish Iqbal					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%
4. The Instructor provides additional material apart from the textbook.	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	80%	10%	10%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	80%	10%	10%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	90%	10%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	100%	0%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	90%	10%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	80%	20%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

General Comments of the Students about the Teacher Strengths:

- Well-rehearsed
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found



Shakila Anwar (HND, 1st, Fundamentals of Human Nutrition, HND-301

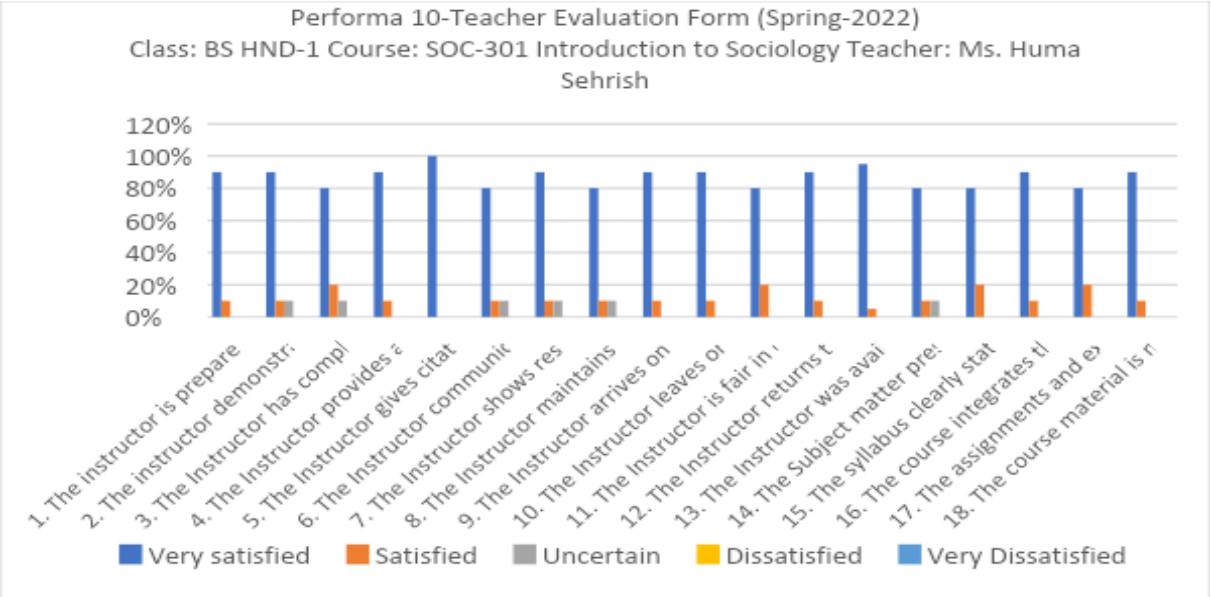
Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-1 Course: HND-301 Fundamentals of Human Nutrition Teacher: Ms. Shakila Anwar					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	95%	5%	0%	0%	0%
3. The Instructor has completed the whole course.	80%	10%	10%	0%	0%
4. The Instructor provides additional material apart from the text book.	80%	10%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	80%	20%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	80%	20%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	100%	0%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	90%	10%	0%	0%	0%

General Comments of the Students about the Teacher Strengths:

- Well-rehearsed
- Punctual
- Updated with recent happenings and events

Weakness:

- No significant weakness was found



Huma Sehresh (HND, 1st, Introduction of Sociology, SOC-301)

Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-1 Course: SOC-301 Introduction to Sociology Teacher: Ms. Huma Sehrish					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	80%	20%	0%	0%	0%
4. The Instructor provides additional material apart from the text book.	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	80%	10%	10%	0%	0%
9. The Instructor arrives on time.	90%	10%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	70%	20%	10%	0%	0%

12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	90%	10%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	95%	5%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	80%	10%	10%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	80%	20%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

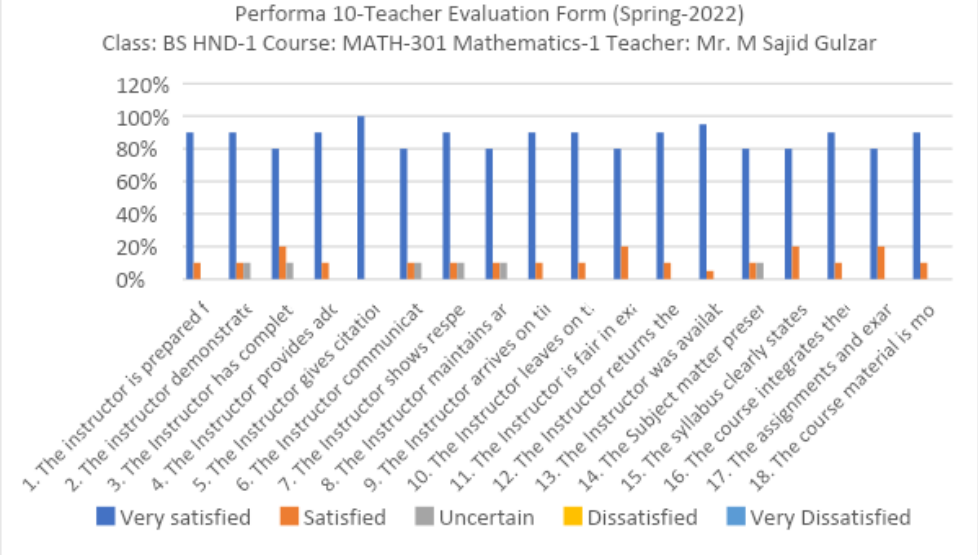
General Comments of the Students about the Teacher Strengths:

- Communicates effectively
- Punctual
- Fair in examination

Weakness:

- No significant weakness was found

Muhammad Sajid Gulzar (HND, 1st, Mathematics I, MATH-301)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-1 Course: MATH-301 Mathematics-1 Teacher: Mr. M Sajid Gulzar	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	100%	0%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	10%	0%	0%
3. The Instructor has completed the whole course.	80%	10%	10%	0%	0%

4. The Instructor provides additional material apart from the text book.	80%	10%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	90%	10%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	80%	20%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	100%	0%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	80%	20%	0%	0%	0%
18. The course material is modern and updated.	90%	10%	0%	0%	0%

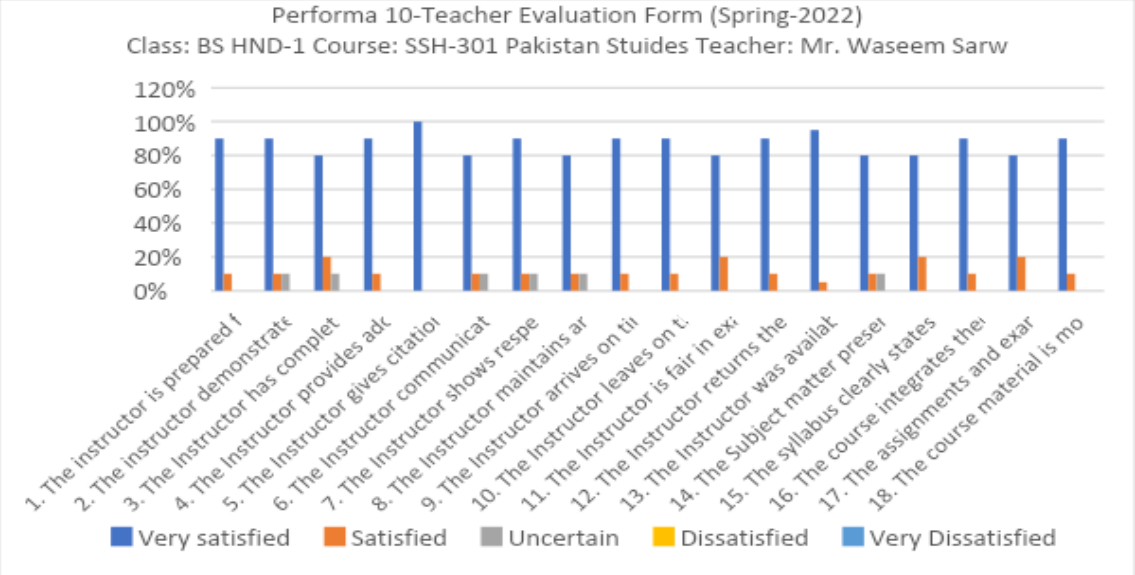
General Comments of the Students about the Teacher Strengths:

- Maintains conducive environment
- Respects students
- Well-rehearsed
- Fair in examination
- Provides Relevant Material
- Respects Students

Weakness:

- No significant weakness was found

Wasim Sarwar (HND, 1st, Pakistan Studies, SSH-301)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-1 Course: SSH-301 Pakistan Stuides Teacher: Mr. Waseem Sarwar					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	90%	10%	0%	0%	0%
3. The Instructor has completed the whole course.	80%	10%	10%	0%	0%
4. The Instructor provides additional material apart from the text book.	90%	10%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	80%	10%	10%	0%	0%
9. The Instructor arrives on time.	90%	10%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	80%	20%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	90%	10%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	95%	5%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	80%	10%	10%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	80%	20%	0%	0%	0%

18. The course material is modern and updated.	90%	10%	0%	0%	0%

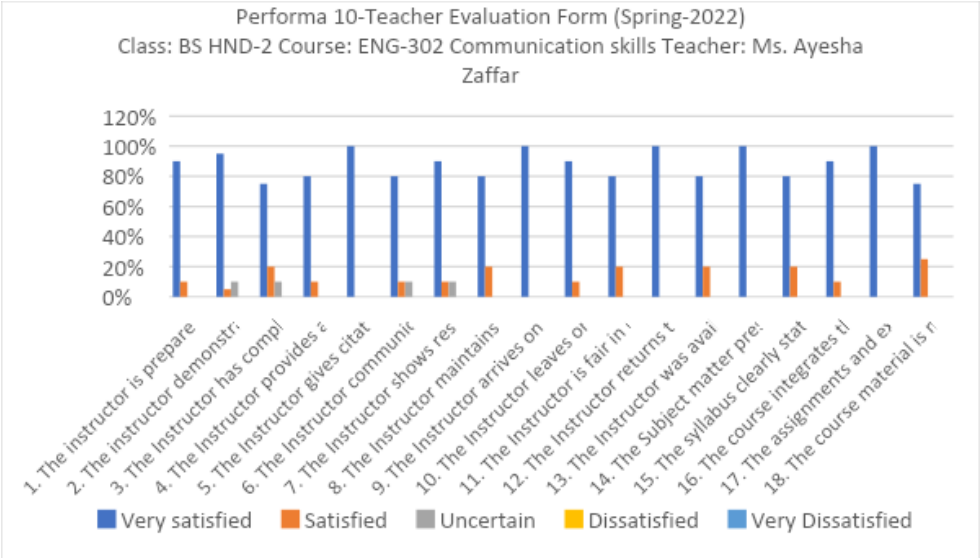
General Comments of the Students about the Teacher Strengths:

- Good pace
- Encourages class participation
- Respects Students

Weakness:

- No significant weakness was found

Ayesha Zaffar (HND, 2nd sem, Communication Skills, ENG-302)



.

Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-2 Course: ENG-302 Communication skills Teacher: Ms. Ayesha Zaffar					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	20%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	80%	10%	10%	0%	0%
3. The Instructor has completed the whole course.	90%	10%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	10%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	80%	20%	0%	0%	0%

12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

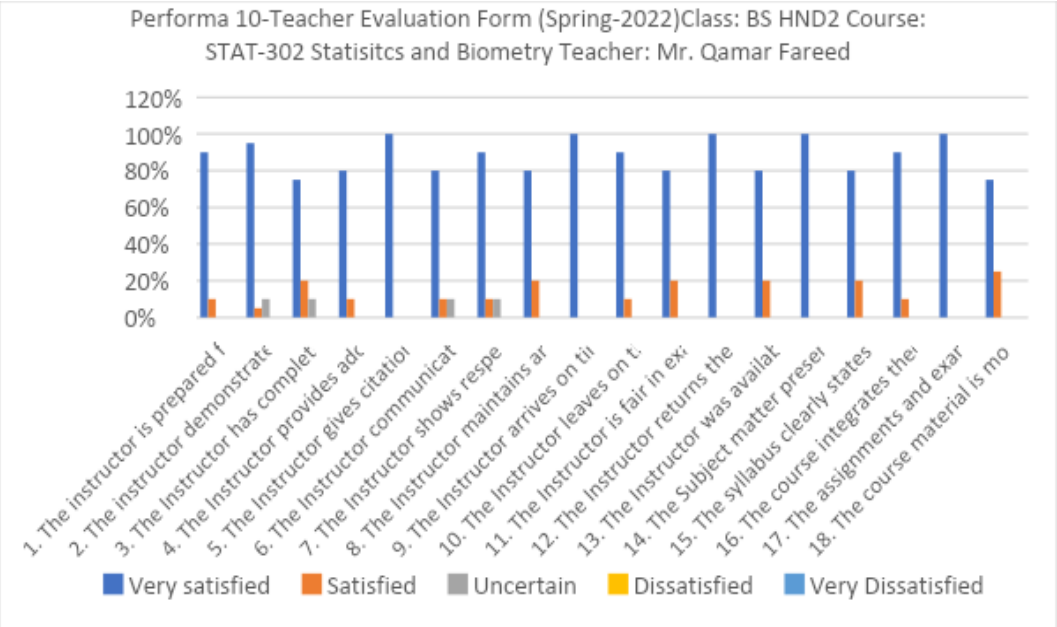
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students

Weakness:

- Not punctual in arriving to the classroom

Muhammad Qamar Fareed (HND, 2nd sem, Statistics and Biometry, STAT-302)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-2 Course: STAT-302 Statistics and Biometry Teacher: Mr. Qamar Fareed					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	10%	10%	0%	0%
2. The instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
3. The Instructor has completed the whole course.	100%	0%	0%	0%	0%

4. The Instructor provides additional material apart from the text book .	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	100%	0%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

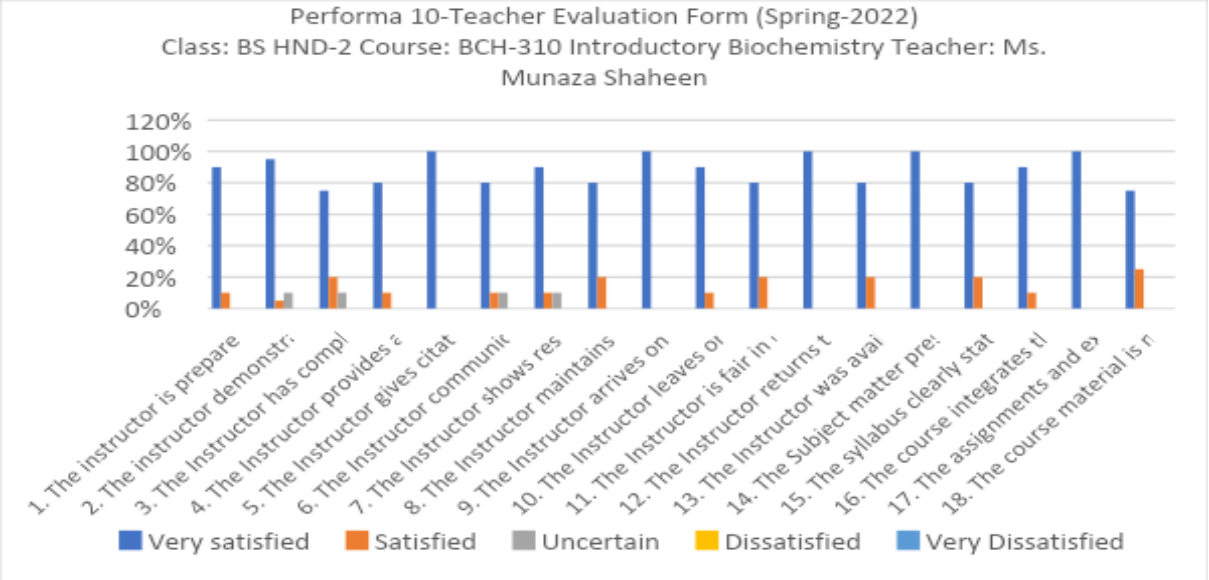
General Comments of the Students about the Teacher Strengths:

- Demonstrates knowledge of subject
- Punctual
- Respects Students

Weakness:

- Graded receipts on returned on time

Munazza Shaheen (HND, 2nd, Introductory Biochemistry, BCH-310)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-2 Course: BCH-310 Introductory Biochemistry Teacher: Ms. Munaza Shaheen					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	20%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
3. The Instructor has completed the whole course.	90%	10%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	75%	25%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	80%	10%	10%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

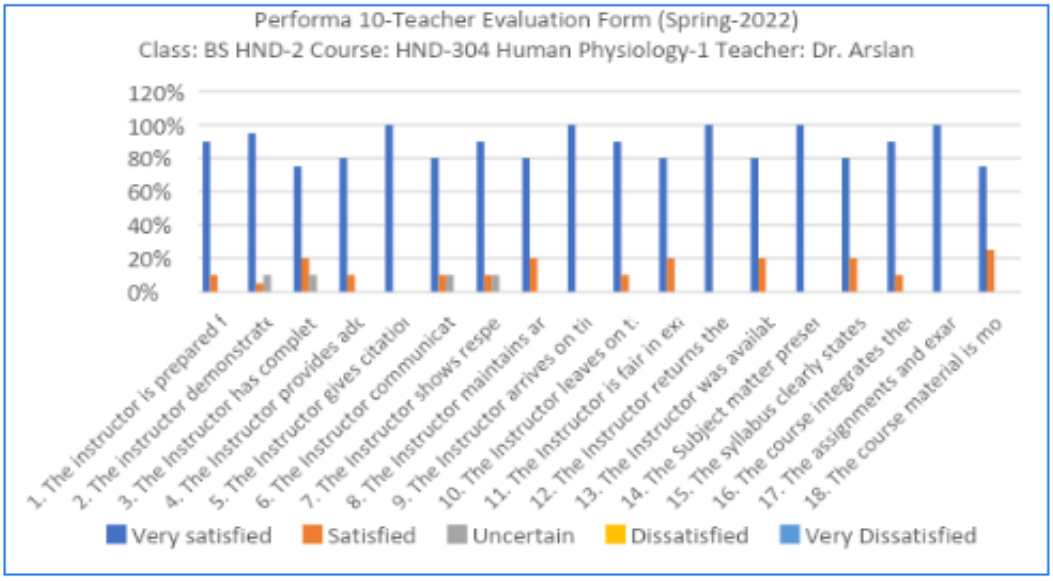
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Communicated effectively
- Punctual

Weakness:

- Not available for after class consultation

Dr. Arslan Khlaid (HND-2 Human Physiology I, HND-304)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-2 Course: HND-304 Human Physiology-1 Teacher: Dr. Arslan					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	95%	5%	0%	0%	0%
3. The Instructor has completed the whole course.	75%	20%	5%	0%	0%
4. The Instructor provides additional material apart from the text book .	80%	10%	10%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	0%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	80%	20%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	80%	20%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	80%	20%	0%	0%	0%

14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

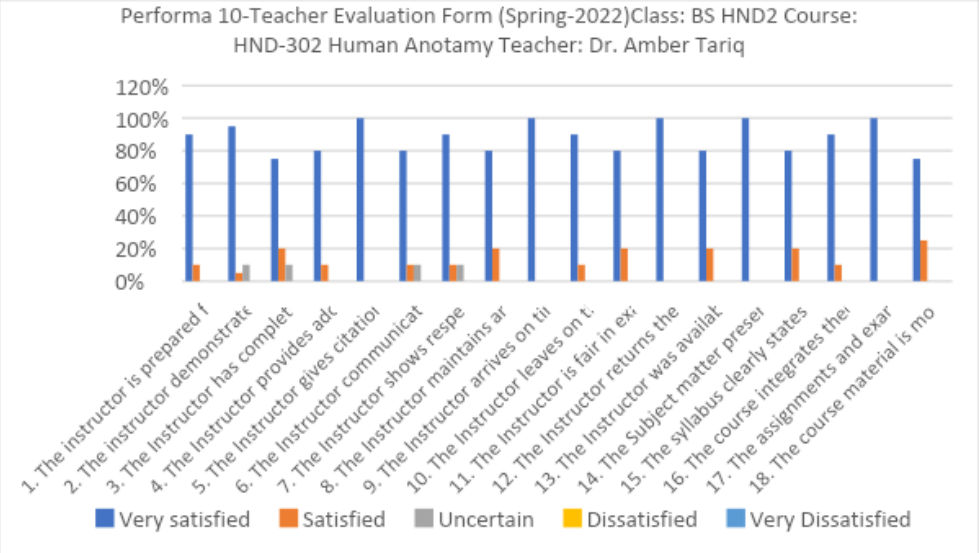
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students
- Demonstrates knowledge of subject

Weakness:

- Course material requires updation

Dr. Amber Tariq (HND, 2nd, Human Anatomy, HND-302)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-2 Course: HND-302 Human Anatomy Teacher: Dr. Amber Tariq					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	80%	10%	10%	0%	0%
2. The instructor demonstrates knowledge of the subject.	75%	25%	0%	0%	0%
3. The Instructor has completed the whole course.	90%	10%	0%	0%	0%
4. The Instructor provides additional material apart from the text book .	75%	25%	0%	0%	0%

5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	75%	25%	0%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	80%	10%	10%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	75%	25%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	75%	25%	0%	0%	0%
11. The Instructor is fair in examination.	75%	25%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	75%	25%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	75%	25%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	75%	25%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

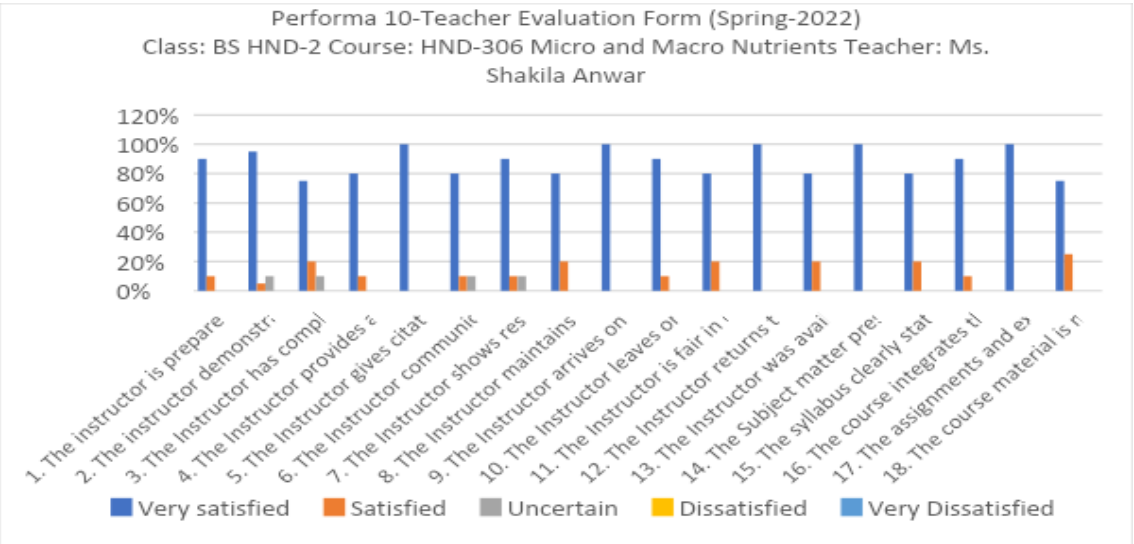
General Comments of the Students about the Teacher Strengths:

- Good pace
- Provides Relevant Material
- Respects Students
- Demonstrates knowledge of subject

Weakness:

- Subject matter is not communicated effectively

Shakila Anwar (HND, 2nd , Micro and Macro nutrients in Human Nutrition, HND-306)



Performa 10-Teacher Evaluation Form (Spring-2022) Class: BS HND-2 Course: HND-306 Micro and Macro Nutrients Teacher: Ms. Shakila Anwar					
Question	Very satisfied	Satisfied	Uncertain	Dissatisfied	Very Dissatisfied
1. The instructor is prepared for each class.	90%	10%	0%	0%	0%
2. The instructor demonstrates knowledge of the subject.	95%	5%	0%	0%	0%
3. The Instructor has completed the whole course.	90%	10%	0%	0%	0%
4. The Instructor provides additional material apart from the textbook.	80%	10%	0%	0%	0%
5. The Instructor gives citations regarding current situations with reference to Pakistani context.	100%	0%	0%	0%	0%
6. The Instructor communicates the subject matter effectively	80%	10%	10%	0%	0%
7. The Instructor shows respect towards students and encourages class participation	90%	10%	10%	0%	0%
8. The Instructor maintains an environment that is conducive to learning.	100%	0%	0%	0%	0%
9. The Instructor arrives on time.	100%	0%	0%	0%	0%
10. The Instructor leaves on time.	90%	10%	0%	0%	0%
11. The Instructor is fair in examination.	80%	20%	0%	0%	0%
12. The Instructor returns the graded scripts etc. in a reasonable amount of time.	100%	0%	0%	0%	0%
13. The Instructor was available during the specified office hours and for after class consultations.	100%	0%	0%	0%	0%
14. The Subject matter presented in the course has increased your knowledge of the subject.	100%	0%	0%	0%	0%
15. The syllabus clearly states course objectives requirements, procedures and grading criteria.	80%	20%	0%	0%	0%
16. The course integrates theoretical course concepts with real-world applications.	90%	10%	0%	0%	0%
17. The assignments and exams covered the materials presented in the course.	100%	0%	0%	0%	0%
18. The course material is modern and updated.	75%	25%	0%	0%	0%

General Comments of the Students about the Teacher Strengths:

- Well-rehearsed
- Punctual
- Updated with recent happenings and events

Weakness:

- No significant weakness was found

Standard-1-4:

The department must assess its overall performance periodically using quantifiable measures.

Intellectual skills of faculty members are manifested by 3 camps and 2 seminars in semester **Spring-22.**

Table 3: Present performance measures for activities

Faculty	Camp	Seminar	Publication
Shakila Anwar	2	1	1
Farah Tawakkal	1	-	-
Sehar Javed	-	1	-
Total	3	2	1

Major Future Improvement Plans

- To impart quality education using audio visual aids along with provision of latest literature Cases, journals, books, reviews and access to digital library.
- To develop Human nutritionists and Microbiologists who meet future challenges.
- To emphasize research on various clinical and practical issues of national as well as international importance.
- Overall enhancement of knowledge and skills of faculty members in relation to the latest global advancements in this discipline through exchange programs, short training and collaborative research projects within and outside Pakistan.

Strengths of Program/Institute

The course curriculum is well designed and updated. The institute has hired new faculty members to meet the needs of the students. The curriculum is up to date.

Weakness of Program/Institute

There should be more sitting place on the campus in extreme summer weather for the visiting faculty.

Survey of Graduating Students

As the Department of Food and Nutritional Sciences and Department of Biochemistry were initiated recently in the year 2021, so no students have graduated yet thus no survey of graduating students is available.

Alumni Survey

As the Department of Food and Nutritional Sciences and Department of Biochemistry were initiated recently in year 2021, so no students have graduated yet thus no Alumni survey is available.

Employer Survey

As the Department of Food and Nutritional Sciences and Department of Biochemistry were recently in year 2021, thus Employer Survey is not applicable in this case.

CRITERION-2: CURRICULUM DESIGN AND ORGANIZATION

Degree Title:

BS HND Purpose:

BIS being an affiliate of PMAS-AAUR follows the curriculum of University Institute of Food and Nutritional Sciences (IFNS). This body is authorized to formulate syllabus and course content. The director of the IFNS chairs the meetings of this body. The curriculum is then submitted to the University Academic Council for approval. All the changes, modifications, additions and deletions with respect of the curriculum must be approved by the academic council before they are adopted for implementation.

Credit Hour Requirements:

Minimum course requirement is 130 credit hours.

Degree Plan:

Students are admitted on open merit based on their previous academic record and an entry test. The minimum duration of studies is 8 semesters (4 academic years) and maximum12 semesters (6 academic years).

Pre-requisites: minimum academic requirements

- F. Sc. (Pre-Medical) or relevant degree or an equivalent examination from recognized institution / Board or Diploma in Food Science and Technology (3yrs)/F. Sc. Pre-Agriculture Candidate securing at least 45% marks excluding 20 marks for Hafiz-e-Quran.
- Applicant must not be over 23 years of age on last date of receipt of application.

Academic Standing:

- Maximum grade point average 4.00
- Minimum grade point average for obtaining the degree 2.50
- To remain on the role of university a student shall be required to maintain the following minimum CGPA otherwise he/she shall be ceased on the university role.
- A student who maintains the minimum GPA/CGPA for promotion and merits the requirements will be promoted to the next semester.
- A student who does not meet the requirements made repeat the whole semester once only. The course creates that student earns in the repeated semester shall replace the previously earned course grades.

- During the specified minimum duration for completing the degree, a student may repeat that course of the previous semester in which he/she secured the grade "F" provided the course load does not exceed the maximum limit of credit hours in a semester. Repetition of lowest grades will be allowed after completing last semester if, the CGPA is less than the degree requirements.
- In the 8th semester if, a student fails to achieve the 2.5 CGPA, he/she have to repeat the course / courses with F & D Grades, so as to make CGPA of 2.5 within the maximum time period allowed for the degree.

Semester CGPA	
First	0.75
Second	1.00
Third	1.25
Fourth	1.50
Fifth	1.75
Sixth	2.00
Seventh	2.25
Eighth	2.50

a) Theory

In theory paper, students' evaluation is done by mid-term examination, assignments/quizzes and final examination. The final examination is compulsory. A student who misses the mid-term examination is not allowed any make-up examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he/she is deemed to have failed in that course. In theory, weightage to each component of examination is as prescribed here under:

Mid Examination	30%
Assignments/Quizzes	10%
Final Examination	60%

b) Practical

For practical examination (if applicable) 100% weightage (for the practical part) is given to the practical examination in the final.

Eligibility for Examination:

A student is eligible to sit in the final examination provided that he/she has attended not less than 75 % of the classes in theory and practical, separately. The minimum pass marks for each course are 40% for BS HND.

Scheme of studies and course contents of BS HND

Scheme of studies for BS HND is given in the table below. Detailed course contents of under-graduate scheme of studies is given in Annexure 1.

Table 4: Scheme of studies for BS HND

Semester-I

Sr. No	Course Code	Course Name	Credit Hours
1	MATH-301	Mathematics I	3 (3-0)
2	SSH-301	Pakistan Studies	2 (2-0)
3	ENG-301	Functional English	3 (3-0)
4	SOS-301	Introduction of Sociology	3 (3-0)
5	HND-301	Fundamentals of Human Nutrition	3 (3-0)
6	HND-303	Food Processing and Preservation	3 (2-2)

Semester-II

Sr. No	Course Code	Course Name	Credit Hours
1	STAT-302	Statistics and Biometry	3 (3-0)
2	ENG-302	Communication Skills	3 (3-0)
3	BCH-310	Introductory Biochemistry	3 (2-2)
4	HND-302	Human Anatomy	3 (2-2)
5	HND-304	Human Physiology-I	3 (2-2)
6	HND-306	Micro and Macronutrients in Human Nutrition	3 (3-0)

Semester-III

Sr. No	Course Code	Course Name	Credit Hours
1	IS/ET-401	Islamic Studies/Ethics	2 (2-0)
2	BCH–306	General Microbiology	3 (2-2)
3	HND-401	Food Safety and Quality Management	3 (3-0)
4	HND-403	Meal Planning and Management	3 (2-2)

5	HND-405	Human Physiology-II	3 (3-2)
6	HND-407	Food Analysis and Sensory Evaluation	3 (2-2)

Semester-IV

Sr. No	Course Code	Course Name	Credit Hours
1	CS-402	Introduction to Computing	3 (2-2)
2	HND-402	General Phytology	3 (2-2)
3	HND-404	Metabolism of Nutrients	2 (2-0)
4	HND-406	Diet Modelling and Counselling	3 (2-2)
5	HND-408	Nutrition Epidemiology	2 (2-0)
6	HND-410	Food Microbiology	3 (2-2)
7	HND-412	Assessment of Nutritional Status	3 (2-2)

Semester-V

Sr. No	Course Code	Course Name	Credit Hours
1	HND-501	Dietetics-I	3 (2-2)
2	HND-503	Nutrition and Phycology	3 (3-0)
3	HND-505	Food and Drug Loss	2 (2-0)
4	HND-507	Nutritional Education and Awareness	3 (2-2)
5	HND-509	Clinical Biochemistry	3 (2-2)
6	HND-511	Functional Foods and Nutraceuticals	3 (3-0)
7	HND-513	Public Health Nutrition	3 (2-2)

Semester-VI

Sr. No	Course Code	Course Name	Credit Hours
1	HND-502	Dietetics-II	3(2-2)
2	HND-504	Nutrition in Emergency	3(3-0)
3	HND-506	Nutrition through Life Cycle	3(3-0)
4	HND-508	Nutritional Practices in Clinical Care	3(2-2)
5	HND-510	Infant and Young Child Feeding	3(2-2)
6	HND-512	Medical Nutrition Therapy	3(3-0)

Semester-VII

Sr. No	Course Code	Course Name	Credit Hours
1	HND-601	Dietetics-III	3 (2-2)
2	HND-603	Food and Drug Interaction	2 (2-0)
3	HND-605	Global Food Issues	3 (3-0)
4	HND-607	Research Method in Nutrition	3 (3-0)
5	HND-609	Sports Nutrition	3 (2-2)
6	HND-611	Nutritional Deficiency Disorders	3 (3-0)

Semester-VIII

Sr. No	Course Code	Course Name	Credit Hours
1	HND-602	Internship/House Job	5(0-10)
2	HND-604	Nutritional Immunology	3(3-0)
3	HND-606	Food Service Management	3(3-0)
4	HND-608	Nutrition Policies and Programs	3(3-0)

Standard-2-1:

The curriculum must be consistent and support the program's documented objectives.

The curriculum of the Food and Nutritional Sciences (BS HND) and Biochemistry and Biotechnology (BS Biochemistry) are consistent with the objectives.

Standard-2-2:

Theoretical backgrounds, problem analysis and solution design must be stressed within the program's core material.

Programs' core material stresses the theoretical background, problem analysis and solution design.

Standard-2-3:

The curriculum must satisfy the core requirements for the program, as specified by the respective accreditation body.

The curriculum satisfies the core requirements for the program, as specified by the respective accreditation body.

Standard-2-4:

The curriculum must satisfy the major requirements for the program as specified by HEC, the respective accreditation body/councils.

The curriculum satisfies the basic requirements of HEC by following the structure and outlines of courses provided by HEC and with the academic council. However, efforts are being made to add value from time to time.

Standard-2-5:

The curriculum must satisfy general education, arts, and professional and other discipline requirements for the program, as specified by the respective accreditation body/ council.

Our curriculum satisfies professional requirements needed for professionals as per the HEC criteria.

Standard-2-6:

An Information Technology Component of the Curriculum Must Be Integrated Throughout the Program

While the curriculum was prepared, all aspects of information technology were considered and after a critical analysis, relevant aspects were integrated into the program as:

- 1 IT course (03 credit hours) is included in the curriculum to fulfill the I.T. requirements for the students of BS HND and BS Biochemistry.

- However, efforts are undertaken to add value from time to time.

Standard-2-7:

Enhancing Oral and Written Communication Skills of the students

The 2 courses aimed at enhancing communication skills have been integrated in the curriculum of BS HND and BS Biochemistry.

- Assignments are given to students on specific titles (part of the course) which are presented orally and are submitted as written report, to increase their oral and written communication skills.
- As it is important to note that in all course students have to present at least one topic of their interest or on current topic in the form of presentation with the help of multimedia and or audio visual aids.

CRITERION-3: LABORATORIES AND COMPUTING FACILITIES

The table contains the detail of the Food and Nutritional Sciences lab at BIS

Table 6: Laboratory Facility

Food and Nutritional Sciences Lab 2: HND lab

Lab Title:	HND Lab
Location and area:	Barani Institute of Sciences
Objectives:	For BS HND Students the objective of the lab is to develop the dietary, Biochemical, Anthropometric and clinical assessment skills.
Courses Taught:	Physiology, Anatomy, Biochemistry
Major Apparatus/Equipment:	Body fat analyzer, weight and height scale, Analysis kits e.g. Blood grouping and blood glucose measuring kits
Safety regulations:	Fire extinguisher has been Installed in the Labs.

Standards-3-1:

Laboratory manuals/documentation/instructions for experiments

The lab manuals are present for the students. However, some of the instructions are also hung on the lab's walls. The environment of the labs is good.

Standard-3-2:

There must be support personnel for instruction and maintaining the Facility

Three lab Instructors are available for instructing the students, issuing the glass wares, maintenance of equipment used in Laboratories and assisting the teachers for demonstrations and practical.

Standard-3-3:

The University computing infrastructure and facilities must be

Computing Facility Support: All the facilities related to computing are available to all faculty members and students for pursuing BS HND and BS Biochemistry programs.

Computing Infrastructure: Five computing labs are there in the campus. There are total 250 computers in the labs and also available for the faculty and some of the management staff.

CRITERION 4: STUDENT SUPPORT AND ADVISING

The support programs and facilities are organized by the Students' Facilitation Centre and other management staff from time to time. The information about the admissions, schemes about different scholarships and about different conferences and seminars are given by the Students' Facilitation Centre and other management staff. The other activities like cultural, sports and other activities are done by different societies headed by the faculty members and manager student affairs. Moreover, other than Students' Facilitation Centre, faculty members are also involved in solving students' problems. Faculty members also provide guidelines and support services to the students for the completion of the degree and move to the suitable path towards a successful career.

Standard-4-1:

Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner.

The courses are according to the approved curriculum as followed by the Arid Agriculture University Food and Nutritional Sciences Department, Biochemistry and Biotechnology Department and HEC criteria are followed strictly. The institution has intake twice a year and the courses are offered twice a year. Therefore, if a student fails in certain courses, he/she can take it in the next semester.

Standard-4-2:

Courses in the major area of study must be structured to ensure effective interaction between students, faculty and teaching assistants.

Students are prepared for the upcoming challenges by focusing on both theoretical and practical facets of different courses. Projects and assignments are given based on theoretical problems and what they practically face those problems in their daily life as well as they will during their career. The courses are structured and decided in the faculty meetings.

- Faculty members interact with the students frequently to enhance the culture of asking questions in the class and after class.

Standard-4-3:

Guidance on how to complete the program must be available to all students and access to qualified advising must be available to make course decisions and career choices.

Proper guidelines are provided to the students by the Students' Facilitation Centre and Faculty members. Different steps have been taken to provide the proper guidelines to the students:

- The details of the admission and courses are provided to the students in the printed form, for example Prospectus and pamphlets.
- The program and fee structure are also provided on the website www.baraniinstitute.edu.pk
- The Students' Facilitation Centre, Food and Nutritional Sciences Department and Biochemistry and Biotechnology Department help the students and inform the students on the regular basis about the program requirements.
- Students and teachers communicate and interact frequently with each other.
- Students can also contact the teachers and relevant supervisors where they face any problem.
- The job placements are also done by the institution for their students. Moreover, jobs advertisements are shared on the social media and different groups which can be helpful for the students.

Table 7: Student to Teacher Ratio at BIS

Spring 2022
3.875

CRITERION 5: PROCESS CONTROL

This chapter deals with the admission, faculty recruitment, registration processes and other such activities.

Standard-5-1:

The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives.

The admission process is according to the rules and criteria established by the University following the rules and regulations of HEC. For this purpose, the advertisement is published in the national newspapers and social media by the Social Media Team

- Admissions are done twice a year in sessions Spring and Fall.
- The criteria for BS HND and BS Biochemistry is Intermediate with second division (50% marks), however, the admissions are awarded on a first come first serve basis.
- The criteria for admissions are reviewed every year in academic council before the announcement and if any changes and modifications are required, it needs to be approved first. The priority is also given to the students with good percentage in their Intermediate exams.

Standard-5-2:

The process by which students are registered in the program and monitoring of students' progress to ensure timely completion of the program must be documented. This process must be periodically evaluated to ensure that it is meeting its objectives

The students' name, after completion of the admission process, is forwarded to the Registrar's office of PMAS-AAUR for proper registration in the specific program and the registration number is issued to the student.

Registration is done one time for each degree, but evaluation is done through the result of each semester. Only those students, who fulfil the criteria of the University, are promoted to the next semester.

Standard-5-3:

The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with the institution's mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

- The recruitment policy for the faculty followed by the BIS is the same as recommended by the PMAS-AAUR. Induction of all posts is done as per rules.
- Vacancies and newly created positions are advertised in the national newspapers, applications are received by the Department of Human Resource, scrutinized by the scrutiny committee, and call letters are issued to the shortlisted candidates on the basis of experience, qualification, publications and other qualities/activities as determined by the University.
- The candidates are interviewed by the Institute Selection Board, and CEO and alternate candidates are selected.
- Selection of candidates is approved by the Selection Committee for issuing orders to join within a specified period.
- Induction of new candidates depends upon the number of approved vacancies. The standard set by HEC/PMAS-AAUR is followed

Standard 5-4:

The process and procedures used to ensure that teaching and delivery of course material to the students emphasizes active learning and that course learning outcomes are met. The process must be periodically evaluated to ensure that it is meeting its objectives.

The institute changed the curriculum on periodical basis to maintain and enhance the quality of teaching and other administrative processes for the provision of high-quality teaching and other services to the students. These changes are done according to the change in innovation and technology.

- The new courses are included and introduced in the curriculum on the basis of the demands and the emergence of new fields.
- The library of the BIS makes sure the availability of the books by International and expert authors on subjects related to the Food and Nutritional Sciences and Biochemistry and Biotechnology Courses. Documentations and internet facilities are also provided by the library.
- The handouts and other study materials are also provided to the students as supplements for almost all lectures.
- The efforts and aim are according to the vision and mission of the institute followed by the rules and regulations of HEC/PMAS-AAUR. Outcomes are regularly measured and evaluated in the staff meetings.

Standard 5-5:

The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.

The date of examinations is announced by the examination department. The results are notified and announced by the controller examination at the end of each semester. The evaluation of students is done with Finals, Mid-term, Quizzes and Assignments. Some teachers also evaluate students based on projects and presentations. The minimum passing marks for each course is 40 %. The breakup and marks distribution are given below:

Mid Examination 30%

Assignments 10%

Final Examination 60%

Marks Obtained	Grade	Grade point	Remarks
80-100%	A	4	Excellent
65-79%	B	3	Good
50-64%	C	2	Satisfactory
40-49%	D	1	Pass
Below 40%	F	0	Fail

CRITERION 6: FACULTY

Standard 6-1:

There must be enough full-time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline.

Currently, there are 06 faculty members. BIS hired Visiting Faculty to meet the academic load and enhance the quality of education.

Table 8: Full Time and Visiting Faculty members in both departments

S. No.	Name	Position	Qualification	Specialization
1	Shakila Anwar	Lecturer	M.Phil	Human Nutrition
3	Sehar Javed	Lecturer	M.Phil	Botany
4	Dr. Amber Tariq	Visiting Teacher	DPT	Physiotherapist
5	Mohsin Abbas	Visiting Lecturer	M.Phil	Microbiology
6	Munazza Shaheen	Lecturer	M.Phil	Biochemistry
8	Nazish Iqbal	Visiting Lecturer	M.Phil FST	FST (Food Science and Technology)
9	Dr. Arslan Khalid	Visiting Lecturer	M.B.B.S	Physiology
10	Huma Sehresh	Visiting Lecturer	M.Phil	Sociology
11	Muhammad Irfan	Lab Incharge	BS MLT	MLT

Standard 6-2:

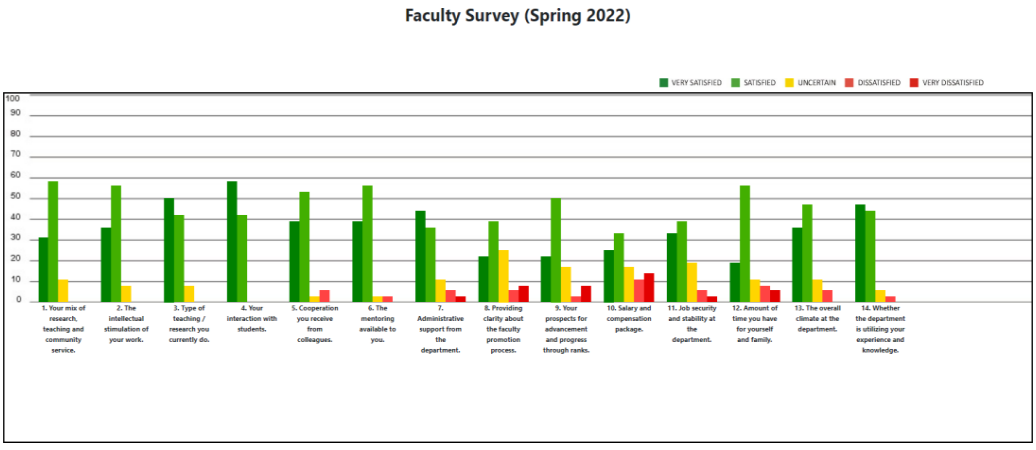
All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place. Effective Programs for Faculty Development

- Professional training and availability of adequate research and academic facilities are provided to the faculty members according to the available resources.
- Existing facilities include mainly internet access, which is available through local area networks. In addition, a library facility with the latest books is also available.
- Financial support is provided by the institute for research activities like paper publications and conferences.

Standard 6-3:

All faculty members should be motivated and have job satisfaction to excel in their profession.

Almost all the faculty members are fully satisfied with the workload and the amount they get in the form of salary. Most of the faculty members are satisfied with the mix of research and teaching method. The faculty members are satisfied with the support they are getting from the administration regarding the research and teaching. The faculty members are satisfied with overall climate of the institute. Most of the faculty members are satisfied that the institution is utilizing their capabilities in the maximum capacity.



CRITERION 7: INSTITUTIONAL FACILITIES

Standard- 7-1:

The institution must have the infrastructure to support new trends in learning such as e-learning.

The faculty has access to internet and HEC digital library which is very helpful for the highquality education and producing research of international standard. The institute has also developed its own digital library that provides online books of all courses.

Standard- 7-2:

The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel.

The Institutes possesses well equipped library. Library has more than 5000 books relevant to Food and Nutritional Sciences and Biochemistry and Biotechnology. There are several local journals subscribed to help researchers in the department.

Standard- 7-3:

Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities.

- The office environment is comfortable to work during the summer as well as during winter.
- Classrooms have adequate size white boards that provide enough space to write.
- Multimedia projectors are available in every classroom.

CRITERION 8: INSTITUTIONAL SUPPORT

The BIS administration is continuously struggling to improve the quality education in every department.

Standard-8-1:

There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars.

The institute currently has limited resources for the research. However, the following funds are provided as financial resources to attract and retain high qualified faculty.

Endowment Fund	48 Million
Tangible Assets	54 Million
Working Capital	61 Million
Total Assets	163 Million

Standard-8-2:

There must be an adequate number of high-quality graduate students, research assistants and Ph.D. students.

Below is the list of students in the BS HND program over Spring 2022. BIS is not accredited for a MS or PhD Degree.

Table 9: Number of students enrolled in BS HND till Spring 2022

Fall 2021	Spring 2022
42	12

Below is the list of students in the BS Biochemistry program over Spring 2022. BIS is not accredited for a MS or PhD Degree.

Table 10: Number of students enrolled in BS Biochemistry till Spring 2022

Fall 2021
17

Standard-8-3:

Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities.

Following is the detail of the institution's budget for maintenance, library holdings, laboratories, computing facilities and faculty development.

Table 11: Financial Information about the institution and the Program

LIB Holdings	Laboratories + Computer H/W	Computing (Software)	Total Assets
4.1M	10.2M	5.4M	19.7M

SUMMARY AND CONCLUSION

Barani Institute of Sciences (BIS) is an affiliate institute of the Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (PMAS – AAUR). BIS was established in 2014 while BS HND and BS Microbiology commenced in 2021. The institute has policies for intake in the program as per the rules prescribed by arid university.

a) Faculty: The institute has 04 full-time faculty members working as Assistant Professor and lecturers in the Department of Food and Nutritional Sciences and Department of Biochemistry and Biotechnology.
b) Infrastructure: BIS has enough infrastructural facilities and are approved by the parent university.
c) Equipment: BIS is well equipped with the latest technology and is clear from university affiliation committee in terms of equipment required for BS HND and BS Biochemistry.

The faculty members and students are encouraged to arrange workshops and seminars as a part of their academic and practical work to further enhance their professional abilities. BIS supports the new trends towards education such as e-learning including digital publications, journals, etc. The faculty and students have been provided with a full-time access to the e-library and internet through local area network, so that they have a ready access to many well-known journals relevant to their respective research areas. The overall student feedback about the department of Food and Nutritional Sciences is good. The facilities being provided for learning are overwhelmed by our graduates. Student is also satisfied and often appraises the faculty teaching at BIS.

ANNEXURES

ANNEXURE 1: SCHEME OF STUDIES AND DETAILED COURSE CONTENTS

Detailed course contents of BS HND

Semester-I

Sr. No	Course Code	Course Name	Credit Hours
1	MATH-301	Mathematics I	3 (3-0)
2	SSH-301	Pakistan Studies	2 (2-0)
3	ENG-301	Functional English	3 (3-0)
4	SOS-301	Introduction of Sociology	3 (3-0)
5	HND-301	Fundamentals of Human Nutrition	3 (3-0)
6	HND-303	Food Processing and Preservation	3 (2-2)

MATH-301 Mathematics-I 3 (3-0)

Course Outline:

Preliminaries: Real-number system, complex numbers, introduction to sets, set operations, functions, types of functions. Matrices: Introduction to matrices, types, matrix inverse, determinants, system of linear equations, Cramer's rule.

Quadratic Equations: Solution of quadratic equations, qualitative analysis of roots of a quadratic equations, equations reducible to quadratic equations, cube roots of unity, relation between roots and coefficients of quadratic equations.

Sequences and Series: Arithmetic progression, geometric progression, harmonic progression.

Binomial Theorem: Introduction to mathematical induction, binomial theorem with rational and irrational indices. Trigonometry: Fundamentals of trigonometry, trigonometric identities.

Recommended Books:

1. Dolciani MP, Wooton W, Beckenback EF, Sharron S, *Algebra 2 and Trigonometry*, 1978, Houghton & Mifflin, Boston (suggested text)
2. Kaufmann JE, College *Algebra and Trigonometry*, 1987, PWS-Kent Company, Boston
3. Swokowski EW, *Fundamentals of Algebra and Trigonometry* (6^{th} edition), 1986,

PWS-Kent Company, Boston

SSH-301 Pakistan Studies 2 (2-0)

Course Outline:

1. Historical Perspective

a) Ideological rationale with special reference to Sir Syed Ahmed Khan, Allama Muhammad Iqbal and Quaid-e-Azam Muhammad Ali Jinnah.

b) Factors leading to Muslim separatism

c) People and Land

i. Indus Civilization

ii. Muslim advent

iii. Location and geo-physical features.

2. Government and Politics in Pakistan Political and constitutional phases:

a) 1947-58

b) 1958-71

c) 1971-77

d) 1977-88

e) 1988-99

f) 1999 onward

3. Contemporary Pakistan

a) Economic institutions and issues

b) Society and social structure

c) Ethnicity

d) Foreign policy of Pakistan and challenges

e) Futuristic outlook of Pakistan

Recommended Books:

1. Burki, Shahid Javed. *State & Society in Pakistan,* The MacMillan Press Ltd 1980.
2. Akbar, S. Zaidi. *Issue in Pakistan's Economy.* Karachi: Oxford University Press, 2000.
3. S.M. Burke and Lawrence Ziring. Pakistan's Foreign policy: An Historical
4. analysis. Karachi: Oxford University Press, 1993.
5. Mehmood, Safdar. *Pakistan Political Roots & Development.* Lahore, 1994.
6. Wilcox, Wayne. *The Emergence of Bangladesh,* Washington: American Enterprise, Institute of Public Policy Research, 1972.

7. Mehmood, Safdar. *Pakistan Kayyun Toota,* Lahore: Idara-e-Saqafat-e-Islamia, Club Road, nd.
8. Amin, Tahir. *Ethno - National Movement in Pakistan,* Islamabad: Institute of Policy Studies, Islamabad.
9. Ziring, Lawrence. *Enigma of Political Development.* Kent England: WmDawson & sons Ltd, 1980.
10. Zahid, Ansar. *History & Culture of Sindh.* Karachi: Royal Book Company, 1980.
11. Afzal, M. Rafique. *Political Parties in Pakistan,* Vol. I, II & III. Islamabad: National Institute of Historical and cultural Research, 1998
12. Sayeed, Khalid Bin. *The Political System of Pakistan.* Boston: Houghton Mifflin, 1967.
13. Aziz, K.K. *Party, Politics in Pakistan,* Islamabad: National Commission on Historical and Cultural Research, 1976.
14. Muhammad Waseem, Pakistan Under Martial Law, Lahore: Vanguard, 1987. Haq, Noor ul. *Making of Pakistan: The Military Perspective.* Islamabad: National Commission on Historical and Cultural Research, 1993.

ENG-301 Functional English 3 (3-0)

Course Contents:

Basics of Grammar, Parts of speech and use of articles, Sentence structure, active and passive voice, Practice in unified sentence, Analysis of phrase, clause and sentence structure, Transitive and intransitive verbs, Punctuation and spelling, Comprehension: Answers to questions on a given text. Discussion: General topics and every-day conversation (topics for discussion to be at the discretion of the teacher keeping in view the level of students). Listening: To be improved by showing documentaries/films carefully selected by subject teachers. Translation skills Urdu to English Paragraph writing: Topics to be chosen at the discretion of the teacher Presentation skills: Introduction

Recommended Books:

Functional English

a). Grammar

1. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 1. Third edition. Oxford University Press. 1997. ISBN 0194313492
2. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 2. Third edition. Oxford University Press. 1997. ISBN 0194313506

b). Writing

1. Writing. Intermediate by Marie-Christine Boutin, Suzanne Brinand and Francoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 0 19 435405 7 Pages 20-27 and 35-41.

c). Reading/Comprehension

2. Reading. Upper Intermediate. Brain Tomlinson and Rod Ellis. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 453402 2.

D). Speaking

SOS-301 Introduction of Sociology 3 (3-0)

OBJECTIVES

- The course is designed to introduce the basic concepts of sociology with particular reference to environment and social relationships.
- It provides understanding of the role of human beings in creating and recreating the environment.
- It evaluates the development and environment relationships, environmental policies and environmental movements with referenceto environmental issues.

Course Detail

- Introduction: Sociology, the Science of Society, Scope and significance, Fields of Sociology, Sociology and other Social Sciences.
- Social interaction and social structure, Social Interaction, the Nature and Basis of Social Interaction.
- Social Processes, Social Structure, Status, Roles, Power and Authority and Role Allocation.
- Culture, Meaning and nature of culture, Elements of culture, Norms, values, beliefs, sanctions, and customs.
- Culture and Socialization Formal and non-formal socialization, and Transmission of Culture.
- Cultural Lag. Cultural Variation, Cultural Integration, Cultural Evolution, Cultural Pluralism Culture and personality.
- Deviance and social control, Deviance and conformity, Mechanism and techniques of social control, Agencies of social control.
- Social organization, Social organization-Definition, meaning and forms, Social groups -Types and functions of groups, Social Institutions: forms, nature and inter-

relationship.

- Community: definition and forms (Urban and rural).
- Social change, Processes of social change, Social change and conflict, Social change and social problems, Resistance to social change.
- Human ecology, Ecological processes, Ecological problems of Pakistan.

HND-301 Fundamentals of Human Nutrition 3 (3-0)

Theory:

Introduction: food, nutrients, nutrition, malnutrition - global and local scenario, diet, balanced diet, food groups, foundations of healthy diet, meal planning; Water: functions, regulation in body, dietary requirements, electrolytes and acid-base balance; Carbohydrates: types, role in body, dietary fiber, bulk and alternative sweeteners, recommended intake and energy value; Fats and oils: types, functions, recommendations concerning fat intake, fat substitutes; Proteins: amino acids, protein synthesis and degradation, classification, functions, quality of proteins, dietary requirements; Vitamins: classification, types, sources, role in body; Mineral elements: types, requirements, sources, role in body; Digestion: alimentary tract, digestive juices, secretions; Absorption and metabolism of nutrients: carbohydrates, protein, lipids; Nutrient and dietary deficiency disorders and special nutrient requirements.

Suggested Readings:

1. Awan, J.A. 2011. Elements of Food and Nutrition. Unitech Communications, Faisalabad, Pakistan.
2. Bamji, M.S., K. Krishnaswamy and G.N.V. Brahmam. 2009. Textbook of Human Nutrition, 3rd ed. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, India
3. Eastwood, M. 2003. Principles of Human Nutrition, 2nd ed. John Wiley & Sons, Inc., New York, USA.
4. Geissler, C. and H. Powers. 2011. Human Nutrition, 12th ed. Churchill Livingstone, London, UK.

Semester-II

Sr. No	Course Code	Course Name	Credit Hours
1	STAT-302	Statistics and Biometry	3 (3-0)
2	ENG-302	Communication Skills	3 (3-0)
3	BCH-310	Introductory Biochemistry	3 (2-2)
4	HND-302	Human Anatomy	3 (2-2)

5	HND-304	Human Physiology-I	3 (2-2)
6	HND-306	Micro and Macronutrients in Human Nutrition	3 (3-0)

STAT-302 Statistics and Biometry 3 (3-0)

OBJECTIVES

1. It will help the students to analyze data pertaining to their research work
2. To assess the significance of their experimental designs. Without statistical analysis research articles are not accepted for publication by the scientific journals.
3. Students must have sound knowledge of the statistical programs.

Course Detail

- Introduction to Biostatistics and its scope in Microbiology.
- Collection of Primary and Secondary data.
- Editing of data.
- Presentation of data: Tabulation, Classification, Visual Presentation (Diagrams and Graphs).
- Measures of Central Tendency: Arithmetic Mean by direct and short- cut method, Geometric Mean, Harmonic Mean, Mode, Median, ED50 (LD50 in detail), Quantile.
- Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation by direct and short-cut method, Variance, and their Coefficient.
- Correlation: Simple Correlation Table, Rank Correlation, Partial and Multiple Correlation.
- Regression and method of least squares.
- Probability: Concept of Probability, Laws of Probability.
- Permutation and Combination.
- Probability distributions: Binomial distribution, Poisson distribution and their fitting to observed data, Normal distribution.
- Sampling and Basic Design
- Hypothesis Testing.
- Chi-square test, Student's t-test, Analysis of variance.
- Laboratory Experiments pertaining to the course.

Recommended Books

1. Stanton, A.G., 2001. Primer of Biostatistics. McGraw-Hill.

2. Jekel, J., Elmore, J.G., Katz, D.L., 2001. Epidimiology, biostatisticsand preventive medicine. W. B. Saunders.
3. Quinn, G., 2002. Experimental Design and Data Analysis for Biologists. Cambridge University Press.
4. Fernholz L.T, Morgenlhaler, S., Stahel, W., 2000. Statistics in Genetics and in Environmental Sciences, Birkhauser Verlag.
5. Kuzma J. W. and Bohnenblust, S. E. 2001, Basis Statistics for theHealth Sciences, McGraw-Hill International Education.

ENG-302Communication Skills 3 (3-0)

Objectives:

Enable the students to meet their real-life communication needs.

Course Contents:

Paragraph writing

Practice in writing a good, unified and coherent paragraph

Essay writing

Introduction

CV and job application

Translation skills

Urdu to English

Study skills

Skimming and scanning, intensive and extensive, and speed reading, summary and précis writing and comprehension

Academic skills

Letter/memo writing, minutes of meetings, use of library and internet

Presentation skills

Personality development (emphasis on content, style and pronunciation)

Note: documentaries to be shown for discussion and review

Recommended Books:

Communication Skills:

a) Grammar

1. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 2. Third edition. Oxford University Press 1986. ISBN 0 19 431350 6.

b) Writing

1. Writing. Intermediate by Marie-Chrisitine Boutin, Suzanne Brinand and Francoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 019 435405 7 Pages 45-53 (note taking).
2. Writing. Upper-Intermediate by Rob Nolasco. Oxford Supplementary Skills. Fourth Impression 1992. ISBN 0 19 435406 5 (particularly good for writing memos, introduction to presentations, descriptive and argumentative writing).

c) Reading

a) Reading. Advanced. Brian Tomlinson and Rod Ellis. Oxford Supplementary Skills. Third Impression 1991. ISBN 0 19 453403 0.
b) Reading and Study Skills by John Langan
c) Study Skills by Riachard Yorky.

BCH-310 Introductory Biochemistry 3 (2-2)

Learning Outcomes:

1. To acquaint knowledge about the nomenclature, structures and properties of chemical constituents
2. To grasp the knowledge about the energy yielding cycle like glycolysis, Krebs cycle, β-oxidation etc.

Theory:

Introduction, scope and importance of biochemistry; Brief introduction of prokaryotic and eukaryotic cells; Bio-macromolecules: composition and organization; Energy and Principles of bioenergetics; Water: Properties of water, acid/base properties, dissociation of water and pH value, pH buffering capacity, transportation mechanisms across bio-membranes and osmosis, Proteins: Amino acids - structure, nomenclature, classification, Primary structure of proteins - peptide bond, sequencing, synthesis, Secondary structure

α-helices, β-sheets, Three dimensional structure of proteins, methods for protein structural determination - X-ray, NMR and homology modeling, tertiary and quaternary structures of proteins, protein denaturation, Methods for purifying and studying proteins; Enzymes: functions, mode of action, specificity and inhibition, classification and nomenclature, factors affecting enzymes activity; Introduction to carbohydrates (Glycobiology): biosynthesis, metabolism, glycolysis, Krebs cycle, Mitochondrial electron transport chain and ATP synthesis; Lipids: introduction, lipogenesis, lipids and lipoproteins in relation to lipid storage diseases, sterol and steroids; Overview of nucleic acids.

Practical:

Model visualization of prokaryotic and eukaryotic cells; Solution preparation; Preparation of different buffers and their pH adjustment; Activity of different enzymes like amylase in saliva; Enzyme purification; DNA extraction; Gel electrophoresis; Determination of amino acid profile using HPLC/Amino acid analyzer; Energy estimation through Bomb Calorimeter.

Suggested Readings:

1. Ahmad, M. 2000. Essentials of Medical Biochemistry, 7th ed. Ilmi Book House, Urdu Bazar, Lahore.
2. Nelson, D.L. and M.M. Cox. 2013. Lehninger Principles of Biochemistry, 6th ed. W.H. Freeman & Co Ltd., New York, USA.
3. Rodwell, V.W., D.A. Bender, K.M. Botham, P.J. Kennelly and P.A. Weil. 2012. Harper's Illustrated Biochemistry, 30th ed. The McGraw-Hill Education, New York, USA.

HND-302 Human Anatomy 3 (2-2)

Learning Outcomes:

1. To acquaint knowledge about structural components of body
2. To know about histology and blood composition for the identification of diseases

Theory:

Introduction: grass anatomy, histology; Terminology: bones & joints, muscles, cartilage, body structure, tissue, cell, organs; Digestive system: oral cavity, stomach, small & large intestine; Urinary system/ excretory: kidneys, ureter, bladder, urethra; Cardio-vascular system: heart and Pericardium, Arteries system, venous system/ Major arteries & veins; Respiratory system: Upper respiratory- Pharynx, Larynx, Trachea sinuses; Lower respiratory- Bronchus, Lungs, Diaphragm; Reproduction system: Male-Testis, Spermatic cord, Penis, Prostate, Bulbourethral gland/ other glands; Female: Ovaries, Fallopian tubes, Uterus, Vagina, Vulva, Breast; Endocrinology: Pituitary, Thyroid, Parathyroid, Thymus, Adrenal, Renal, super renal; Lymphatic system: Lymph, Lymph vessel, lymph node; Nervous system: Brain, Spinal cord, Cranel nerves, Brachial plexus, Sciatic nerve; Sensory organs: Eyes, Ears, Taste buds, Smell, Touch.

Practical:

Four primary tissues of body - Epithelium tissues: Introduction, types, epithelial glands - endocrine & exocrine, connective tissues: loose connective tissue, collagenous, elastic and reticular fiber; Te-cell of loose cartilage (fibroblast, fat cell, plasma cell, macrophages, mast

cell); Blood: leukocytes, WBC, RBC & Platelets; Cartilage and its types; Muscle and its types; Histology in: GIT, respiratory, urinary systems, breast, uterus. Microscopy and preparation of histological slides.

Suggested Readings:

1. Agur, M.R. and F.D. Arthur. 2009. Grant's Atlas of Anatomy. Lippincott Williams and Wilkins, New York, U.S.A.
2. David, C. 2007. Anatomy of Hatha Yoga: A Manual for Students, Teachers and Practitioners. National Banarisdass Publishers (Pvt.) Ltd., New Delhi, India.
3. Gerard, J. T. and T.N. Mark. 2009. Principles of Human Anatomy. John Wiley and Sons, Inc., New York, USA.
4. Marsh, P. 1920. The Fundamentals of Human Anatomy. C.V. Mosby Publisher, St. Louis MO, USA.

HND-304 Human Physiology-I 3 (2-2)

Learning Outcomes:

1. To familiarize about the functions of different body organs
2. To understand risk parameters related to assessment and prognosis of different diseases

Theory:

Introduction to human physiology, organization level and cell physiology; Digestive system: oral cavity, salivary glands, teeth, tongue; oesophagus, pharynx, larynx, stomach, small intestine, large intestine, accessory glands associated with GIT (liver, gallbladder and pancreas); Urinary system: introduction, functions of kidney and nephron, Glomerular filtration, tubular reabsorption, tubular secretion, urine excretion and plasma clearance, fluid and acid base balance; Cardiovascular system: functions of heart and blood vessels, electrical activity of heart, mechanical events of heart, cardiac output and its control.

Practical:

Blood grouping; Hb estimation; Counting of blood cells; complete blood count (CBC); Electrolyte estimation; Hydration test; Determination of coagulation time, blood pressure, pulse recording; Heart activity – electrocardiography; Test for saliva; Respiratory movement, maximum breathing capacity, pulmonary function test; Intestinal motility; Renal function tests and urine analysis.

Suggested Readings:

1. Gillian, P. and C.D. Richards. 2006. Human Physiology: The Basis of Medicine, 3rd ed. Oxford University Press, London.
2. Guyton A.C. and J.E. Hall. 2006. Textbook of Medical Physiology, 11th ed. J.F. Kennedy Blvd., Philadelphia, USA.
3. Rahman, Z.U., B. Aslam, J.A. Khan and T. Khaliq. 2007. Manual of Physiology-I, 2nd ed. MAS Computers, Faisalabad, Pakistan.
4. Rahman, Z.U., B. Aslam, Khan, J.A. and T. Khaliq. 2007. Manual of Physiology-II, 2nd ed. MAS Computers, Faisalabad, Pakistan.
5. Tortora, G.J. 2008. Principles of Anatomy and Physiology, 12th ed. John Wiley & Sons, Inc., New York, USA.

HND-306 Micro and Macronutrients in Human Nutrition 3 (3-0)

Theory:

Carbohydrates: nature, structures; Classification and functions of carbohydrates: monosaccharaides, disaccharides, oligosaccharides, polysaccharaides; Digestion and absorption of carbohydrates: glycolitic pathway, glycolysis, glycogenesis, glycogen catabolism, tricarboxylic acid cycle and pentose phosphate pathway; Biosynthesis of carbohydrates: gluconeogenesis; Regulation of carbohydrate metabolism pathways; CHO metabolism in diabetes; Proteins: structural features, characteristics, functions; Amino acids: biosynthesis and degradation, food sources (on the basis of their functions in human body);. Digestion and absorption; Metabolic fates of amino acids: deamination, transamination, Urea cycle, Ketogenic amino acids, Glucogenic amino acids, Protein metabolism in liver and kidney diseases, Protein energy malnutrition; Lipids – nature, classification; Fatty acids: saturated, unsaturated, polysaturated, glycerol, cholesterol, sterol; Lipoprotein systems (blood lipids); Fats biosynthesis: lipids, phospholipids and sphingolipids; Lipid biosynthesis: cholesterol, sterol; Lipid oxidation; Essential fatty acids: sources, health benefits; Adipose tissues; Digestion, absorption, metabolism and transportation of lipids; Oxidation of fatty acids (beta oxidation); Ketone bodies. Vitamins: nomenclature, history, development of the vitamins concept; Fat and water soluble vitamins: sources, chemistry, absorption, transport and storage, metabolism, function, deficiency, bioassay, interaction with other nutrients, recommended daily allowances and toxicities; Diagnosis, treatments and prevention of vitamin deficiencies in human; Stability of vitamins under different storage conditions; Vitamin like compounds; Losses of vitamin during food processing; Minerals: types, history and developments of the minerals concept; Criteria of essentiality of minerals and their

classification; Minerals distribution in human body; Macro- and micro-minerals: dietary sources, absorption, metabolism, metabolic function, deficiency symptoms and disorders, recommended daily allowances, diagnosis, treatments and prevention of mineral deficiencies in human; Water and electrolytes.

Suggested Readings:

1. Berdanier, C.D. and J. Zempleni. 2009. Advances Nutrition: Macronutrients, micronutrients and Metabolism. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.
2. Byrd-Bredbenner, C., G. Moe, D. Beshgetoor and J. Berning. 2015.
3. Wardlaw's Perspectives in Nutrition, 10th ed. McGraw-Hill Education, Columbus, OH, USA
4. David L.N., A.L. Lehninger and M.M. Cox. 2013. Lehninger Principles of Biochemistry, 6th ed. W.H. Freeman and Company, New York.
5. Gropper, S.S. and J.L. Smith JL. 2013. Advanced Nutrition and Human Metabolism, 6th ed. Cengage Learning, Belmont, CA, USA.
6. Allen, L. 2006. Guidelines on Food Fortification with Micronutrients. World Health Organization, Geneva, Switzerland.
7. Bender, D.A. 2009. Nutritional Biochemistry of Vitamins, 2th ed. Cambridge University Press, Cambridge, UK.
8. DiSilvestro, R.A. 2004. Handbook of Minerals as Nutritional Supplements. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.
9. Gropper, S.S. and Smith, J.K. 2012. Advanced Nutrition and Human Metabolism, 6th ed. Wadsworth Cengage Learning, Belmont, CA, USA.

Semester-III

Sr. No	Course Code	Course Name	Credit Hours
1	IS/ET-401	Islamic Studies/Ethics	2 (2-0)
2	BCH–306	General Microbiology	3 (2-2)
3	HND-401	Food Safety and Quality Management	3 (3-0)
4	HND-403	Meal Planning and Management	3 (2-2)
5	HND-405	Human Physiology-II	3 (3-2)
6	HND-407	Food Analysis and Sensory Evaluation	3 (2-2)

IS/ET-401 Islamic Studies/Ethics 2 (2-0)

Objectives:

This course is aimed at:

1 To provide Basic information about Islamic Studies

2 To enhance understanding of the students regarding Islamic Civilization

3 To improve Students skill to perform prayers and other worships

4 To enhance the skill of the students for understanding of issues related to faith and religious life.

Contents:

Introduction to Quranic Studies

1) Basic Concepts of Quran
2) History of Quran
3) Uloom-ul -Quran

Study of Selected Text of Holly Quran

1) Verses of Surah Al-Baqra Related to Faith(Verse No-284-286)
2) Verses of Surah Al-Hujrat Related to Adab Al-Nabi (Verse No-1-18)
3) Verses of Surah Al-Mumanoon Related to Characteristics of faithful (Verse No-1-11)
4) Verses of Surah al-Furqan Related to Social Ethics (Verse No.63-77)
5) Verses of Surah Al-Inam Related to Ihkam(Verse No-152-154)

Study of Selected Text of Holy Quran

1) Verses of Surah Al-Ihzab Related to Adab al-Nabi (Verse No.6,21,40,56,57,58.)
2) Verses of Surah Al-Hashar (18,19,20) Related to thinking, Day of Judgment
3) Verses of Surah Al-Saf Related to Tafakar,Tadabar (Verse No-1,14)

Seerat of Holy Prophet (S.A.W) I

1) Life of Muhammad Bin Abdullah (Before Prophethood)
2) Life of Holy Prophet (S.A.W) in Makkah
3) Important Lessons Derived from the life of Holy Prophet in Makkah

Seerat of Holy Prophet (S.A.W) II

1) Life of Holy Prophet (S.A.W) in Madina
2) Important Events of Life Holy Prophet in Madina
3) Important Lessons Derived from the life of Holy Prophet in Madina

Introduction to Sunnah

1) Basic Concepts of Hadith
2) History of Hadith
3) Kinds of Hadith
4)Uloom –ul-Hadith
5) Sunnah & Hadith
6) Legal Position of Sunnah

Selected Study from Text of Hadith

Introduction to Islamic Law & Jurisprudence

1) Basic Concepts of Islamic Law & Jurisprudence
2) History & Importance of Islamic Law & Jurisprudence
3) Sources of Islamic Law & Jurisprudence
4) Nature of Differences in Islamic Law
5) Islam and Sectarianism

Islamic Culture & Civilization

1) Basic Concepts of Islamic Culture & Civilization
2) Historical Development of Islamic Culture & Civilization
3) Characteristics of Islamic Culture & Civilization
4) Islamic Culture & Civilization and Contemporary Issues

Islam & Science

1) Basic Concepts of Islam & Science
2) Contributions of Muslims in the Development of Science
3) Quran & Science

Islamic Economic System

1) Basic Concepts of Islamic Economic System
2) Means of Distribution of wealth in Islamic economics
3) Islamic Concept of Riba
4) Islamic Ways of Trade & Commerce

Political System of Islam

1) Basic Concepts of Islamic Political System
2) Islamic Concept of Sovereignty
3) Basic Institutions of Govt. in Islam

Islamic History

1) Period of Khlaft-E-Rashida

2) Period of Ummayyads
3) Period of Abbasids

Social System of Islam

1) Basic Concepts of Social System of Islam
2) Elements of Family
3) Ethical Values of Islam

Reference Books:

1. Hameed ullah Muhammad, “Emergence of Islam” , IRI, Islamabad
2. Hameed ullah Muhammad, “Muslim Conduct of State”
3. Hameed ullah Muhammad, ‘Introduction to Islam
4. Mulana Muhammad Yousaf Islahi,”
5. Hussain Hamid Hassan, “An Introduction to the Study of Islamic Law” leaf Publication Islamabad, Pakistan.
6. Ahmad Hasan, “Principles of Islamic Jurisprudence” Islamic Research Institute, International Islamic University, Islamabad (1993)
7. Mir Waliullah, “Muslim Jurisprudence and the Quranic Law of Crimes”
8. Islamic Book Service (1982)
9. H.S. Bhatia, “Studies in Islamic Law, Religion and Society” Deep & Deep Publications New Delhi (1989)
10. Dr. Muhammad Zia-ul-Haq, “Introduction to Al Sharia Al Islamia” Allama Iqbal Open University, Islamabad (2001)

BCH–306 General Microbiology 3 (2-2)

Course Objective:

1. This course will familiarize students with fundamentals of prokaryotic and eukaryotic microorganisms including viruses.
2. This course will impart knowledge about the structure, growth, genetics, metabolism and ecology of microbes.
3. This course will demonstrate suitable laboratory skills and techniquesrequired for the isolation, staining, identification, characterization, and control of microbes.

Learning Outcome:

1. Upon successful completion of the course, the students will be able to:
2. Understand the fundamental principles of microbiology, relation of microbes with their habitat, their growth requirements, growth, genetics and metabolism.
3. compare and differentiate between different groups of microorganisms
4. elucidate the beneficial and harmful roles of microorganisms
5. Develop a wide range of microbiology-related skills and the ability to work independently in the lab.

Course Outline:

- Overview and history of microbiology
- microbial diversity and ecology (Archaea, bacteria, fungi, algae, protozoa)
- Biophysical and biochemical factors for microbial growth
- Microbial growth kinetics and methods of measurement of microbial growth
- Transformation, transduction and conjugation
- Microbial metabolism
- Carbon, nitrogen, sulfur and phosphorus cycles
- Symbiosis
- Structure and biology of viruses
- Common microbial diseases
- Control of microorganisms: sterilization and disinfection, antimicrobial agents, antibiotics, antibiotic resistance and susceptibility, antifungal and antiviral agents
- Applications of microorganisms

Practical:

1. Sterilization techniques
2. Culturing of bacteria in liquid and solid medium
3. Isolation and identification of microbes from different samples
4. Colony morphology and colony count
5. Preservation of culture
6. Microbial cell/spore count and growth curves
7. Gram-staining of bacteria
8. Endospore staining
9. Determination of sensitivity of isolates to different antibiotics

Recommended Books:

1. Pommerville CJ. Alcamo's Fundamentals of Microbiology. 9th Ed. Jones and Bartlett Learning Company, 2018.
2. Madigan MT and Martinko J, 2010. Brock Biology of Microorganisms. 13thEdition; Pearson College Div.
3. Talaro KP. 2015. Foundations in Microbiology Companion. 8th ed.McGraw Hill.
4. Black JG, 2007. Microbiology: principles and explorations. 7th Edition; John Wiley and Sons.
5. Willey JM, Sherwood LM, Woolverton CJ. 2014. Prescott, Harley ANDKleins's Microbiology, 9th ed., McGraw Hill.
6. Cappuccino JG and Sherman N, 2013. Microbiology: a laboratory manual. 10thEdition; Pearson Education.

HND-401 Food Safety and Quality Management 3 (3-0)

Learning Outcomes:

1. To understand principles lying under safety and quality of foods to ensure their safe production
2. To implement the food safety and quality management systems in a food business in a precise and systematic way

Theory:

Food safety, security and quality: definitions and importance; Different terminologies used in food safety & quality; Categories of hazards: Physical, chemical, biological. Good manufacturing practices; Good storage practices; Plant design layout; Global Food Safety Imitative; Global Food Safety Systems: HACCP, BRC, FSSC 22000, ISO 22000; Quality Management System (ISO 9001:2008); Food safety laws in Pakistan—West Pakistan Pure Foods Ordinance 1960, Cantonments Pure Food Ordinance Act 1966, West Pakistan Pure Food Rules 1965, The Punjab Pure Food Rules 2007 & 2011.

Suggested Readings:

1. Ali, I. 2003. Food Quality Assurance: Principles and Practices. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.
2. David A.S. and F.S. Norah. 1998. Principles and Practices for the Safe Processing of Foods. Woodhead Publishing Limited, Cambridge, England.
3. Early, R. 1995. Guide to Quality Management Systems for the Food Industry. Springer Science + Business Media, LLC., New York, USA.

4. Motarjemi, Y and Lelieveld, H. 2014. Food Safety Management: A Practical Guide for the Food Industry. Academic Press, Elsevier Inc., San Diego, CA, USA.
5. Sun, D. 2012. Handbook of Food Safety Engineering. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
6. Theuvsen, L., A. Spiller, M. Peupert and G. Jahn. 2007. Quality Management in Food Chains. Wageningen Academic Publishers, The Netherlands.

HND-403 Meal Planning and Management 3 (2-2)

Learning Outcomes:

1. To understand the importance of meal planning and its role in everyday life
2. To apply the principles of meal planning in the planning of balanced and appropriate meals keeping in mind the nutritional requirements, family budget and food requirements choices of different age groups.
3. To identify market trends and conditions while purchasing food keeping in mind food costs and quality

Theory:

Importance and principles of meal planning for family and occasions; Nutritional value of meal; Family meal budgeting; Rules for good menu planning; Menu planning for families; Selection of various foods in relation to season and market conditions; Composition and storage of food; Selection, use and care of table appointments; Study of different types of table settings, table manners and etiquettes; Kitchen safety and settings; Basics of food hygiene and sanitation; Food labelling; Menus for schools, geriatric and healthcare centers.

Practical:

Survey and record keeping of market prices (retail & wholesale); Types of foods available in the market from different food groups. *e.g.* retail cuts of meat and types of milk; Comparison of weight, volume and effect of cooking on color, taste and texture of different foods; Planning, preparation and service of meals for different occasions at different income levels; Understanding food labels; Market visits for cost and quality and food marketing regulations. Food service visits (Restaurants, School, Colleges, Hospitals).

Suggested Readings

1. Brown, A. 2015. Understanding Food Principles & Preparation, 5th ed. Cengage Learning, Belmont, CA, USA.
2. McWilliams, M. 2012. Fundamentals of Meal Management, 5th ed. Dorling Kindersley India Pvt. Ltd., New Delhi, India.

3. Narvaez-Soriano, S. 2004. A Guide to Meal Management and Table Services. Rex Book Store, Manilla, Philippine.
4. Sethi, M. 2008. Institutional Food Management. New Age International Pvt. Ltd. New Delhi, India.

HND-405 Human Physiology-II 3 (3-2)

Learning Outcomes:

1. To understand the functions of respiratory, endocrine, nervous, immune and reproductive systems
2. To acquaint knowledge about hormonal and neural interactions on metabolism

Theory:

Respiratory system: respiratory mechanics, gas transport and exchange mechanisms, control of respiration, respiratory capacities and volumes, non-respiratory functions of lungs; Immune system and lymphatic system: body defence system and regulation; Endocrinology and reproduction: reproductive physiology, role of hormones in spermatogenesis, menstrual cycles and pregnancy, energy balance and temperature regulation; Nervous system: principles of neuronal and hormonal communication systems, functional organization of nervous system, central, peripheral and autonomic nervous system, action potentials, types of neurotransmitters and their role in pathophysiological integration in body; Musculoskeletal system: principles of neuromuscular physiology.

Practical:

Demonstration of the location of endocrine glands in laboratory animal; Adrenalectomy and the effect of adrenaline on metabolism in rats; Effect of adrenaline on metabolism; Nerve muscle preparation, effect of temperature on single muscle twitch, muscle and nerve irritability, neuromuscular fatigue, normal heart activity; Hormonal assay: digestive, growth & reproductive.

Suggested Readings:

1. Brar, R.S., H.S. Sandhu and A. Singh. 2002. Veterinary Clinical Diagnosis by Laboratory Methods. Kalyani Publishers Ludhiana, New Delhi, India.
2. Gillian, P. and C.D. Richards. 2006. Human Physiology: The Basis of Medicine, 3rd ed. Oxford University Press, London.
3. Guyton A.C. and J.E. Hall. 2006. Textbook of Medical Physiology, 11th ed. J.F. Kennedy Blvd., Philadelphia, USA.
4. Rahman, Z.U., B. Aslam, J.A. Khan and T. Khaliq. 2007. Manual of Physiology-I&II,

2nd ed. MAS Computers, Faisalabad, Pakistan.

5. Tortora, G.J. 2008. Principles of Anatomy and Physiology, 12th ed. John Wiley & Sons, Inc., New York, USA.

HND-407 Food Analysis and Sensory Evaluation 3 (2-2)

Learning Outcomes:

1. To highlight the significance of food analysis in product development and overall quality
2. To comprehend commonly employed types of analysis for product characterization
3. To prepare and standardize commonly used lab solutions

Theory:

Food analysis: significance; Sampling: techniques, preparation, preservation; Physical properties and analysis of foods and food products: appearance, texture, specific gravity, refractive index, rheology; Chemical analysis: significance; Proximate analysis: moisture, ash, proteins, lipids, carbohydrates, fibers, NFE, acidity, pH, sugars, mineral elements, vitamins – significance, methods; Chromatography: paper, thin layer; Spectroscopy: atomic emission, atomic absorption; Sensory evaluation of foods: attributes, difference and preference tests, consumer acceptance. Overview of commonly employed statistical methods. **Practical:**

Lab safety requirements; Preparation and standardization of laboratory solutions; Sampling; Determination of specific gravity, refractive index, moisture, ash, crude protein, crude fat, crude fibers, NFE, pH and acidity; Estimation of vitamin C; Determination of mineral elements through flame photometer and atomic absorption spectrophotometer; Paper and thin layer chromatography; Identification of toxins by TLC; Sensory evaluation of foods.

Suggested Readings:

1. AOAC. 2016. Official Methods of Analysis of AOAC International, 20th ed. Association of Official Analytical Chemists, Arlington, USA.
2. Awan, J.A. and S.U. Rehman. 2015. Food Analysis Manual. Unitech Communications, Faisalabad, Pakistan.
3. Cruz, R.M.S., I. Khmelinskii and M. Vieira. 2014. Methods in Food Analysis. CRC Press. Taylor & Francis Group, Boca Raton, F.L, USA.
4. Pomeranz, Y. and C.E. Meloan. 2000. Food Analysis: Theory and Practice, 3rd ed. Chapman & Hall, New York, USA.
5. Winton, A. and K.B. Winton. 2006. Techniques of Food Analysis. Agrobios Publishing Co., Jodhpur, India.

Semester-IV

Sr. No	Course Code	Course Name	Credit Hours
1	CS-402	Introduction to Computing	3 (2-2)
2	HND-402	General Pathology	3 (2-2)
3	HND-404	Metabolism of Nutrients	2 (2-0)
4	HND-406	Diet Modelling and Counselling	3 (2-2)
5	HND-408	Nutrition Epidemiology	2 (2-0)
6	HND-410	Food Microbiology	3 (2-2)
7	HND-412	Assessment of Nutritional Status	3 (2-2)

CS-402 Introduction to Computing 3(2-2)

Course Detail

- Introduction to Computer and Window 98/2000.
- Word processing (Microsoft Word).
- Spread Sheets (Microsoft Excel) and other related software packages (at least two).
- Internet access and different data bases available on the internet.

HND-402 General Pathology 3(2-2)

Learning Outcomes:

1. To understand the basic terminologies in different pathological states
2. To elaborate the cell injuries, necrosis, their types and practical applications of pathology

Theory:

Scope of pathology and concept of diseases; Definition and terminology: Ischemia, Hypoxia, Necrosis, Infarction, Atrophy, Hypertrophy, Hyperplasia, Metaplasia, Plasia, Anaplasia; Response of body to injury and infection, growth disturbance, circulatory disturbances, wound healing and repair, neoplasia, fever, disturbance of mineral deposits and pigmentation, anaemia, diarrhoea, burn injury, infectious diseases, hypertension, acute & chronic inflammation, immunity, allergy, hypersensitivity, ulcer (peptic, duodenal), leukemia or blood cancer, environmental and nutritional diseases; Diagnosis and treatment of Cancer in general, fate, survival and prognosis with tumors.

Practical:

Selection, collection, preservation and dispatch of morbid material for laboratory examination; Study of pathological slides of various pathological conditions; Demonstration of blood sampling; Basic concepts of anemia; Demonstration of routine urinalysis, faecal examination and skin scraping; Blood smears, staining and examination; Haematology report interpretation, basic concepts of contents and interpretation of pathology report (serum enzymes and other markers of disease).

Suggested Readings:

1. Carton, J. 2012. Oxford Handbook of Clinical Pathology, 1st ed. Oxford University Press, New York, U.S.A.
2. Kierszenbaum, A.L. and L. Tres. 2015. Histology and Cell Biology: Introduction to Pathology, 4th ed. Elsevier Sunders, Philadelphia, PA, USA.
3. Kumar, V., A.K. Abbas, N. Fausto, and J.C. Aster. 2015. Robbins and Cotran Pathologic Basis of Disease, 9th ed. Saunders Elsevier, USA.
4. McPhee, S.J. and W.F. Ganong. 2014. Pathophysiology of Disease: An Introduction to Clinical Medicine, 7th ed. McGraw-Hill Education, Bew York, USA.

HND-404 Metabolism of Nutrients 2(2-0)

Learning Outcomes:

1. To understand the metabolic roles of carbohydrates, fats, proteins, vitamins and minerals.
2. To generalize the way in which nutrients are processed through major metabolic fates in order to perform various energetic and structural functions in the body.
3. To establish the role of enzymes and hormones in metabolism of nutrients.

Theory:

Metabolic pathways: objectives, chemical reactions, enzymes, co-enzymes and prosthetic groups, metabolic pathways; Role of ATP in metabolism: objectives, functions, phosphorylation of ADP to ATP; Digestion and absorption: gastrointestinal tract, digestion and absorption of carbohydrates, fats and proteins; Absorption of vitamins and minerals; Metabolism of carbohydrates and fats; Protein nutrition and metabolism; Nitrogen balance and protein requirements; Protein synthesis and metabolism of amino acids; Integration and control of metabolism: pattern of metabolic regulation, intracellular regulation of enzyme activity, responses to fast acting hormone by covalent modification of enzyme proteins, slow acting hormones, changes in enzymes synthesis.

Suggested Readings:

1. Bender, D.A. 2014. Introduction to Nutrition and Metabolism, 5th ed. CRC Press, Taylor & Francis, Boca Raton, FL, USA.
2. Davidson, S., R. Passmore, R and M.A. Eastwood. 1986. Human Nutrition and Dietetics. Churchill Livingstone, New York, U.S.A.
3. Gropper, S.S. and J.L. Smith. 2013. Advanced Nutrition and Human Metabolism, 6th ed. Wadsworth Cengage Learning, Belmont, CA, USA.
4. Kohlmeier, M. 2015. Nutrient Metabolism: Structures, Functions, and Genes, 2nd Ed. Academic Press, San Diego, CA, USA.
5. Lanham-New, S.A., I.A. Macdonald and H.M. Roche. 2011. Nutrition and Metabolism, 2nd ed. Blackwell Publishing, Jones & Wiley Sons Ltd., Chester, West Sussex, UK.
6. Whitney, E.N. and S.R. Rolfes. 2016. Understanding Nutrition, 14th ed. Cengage Learning, Belmont, CA, USA.

HND-408 Nutrition Epidemiology 2(2-0)

Learning Outcomes:

1. To learn the methodology and applications of nutritional epidemiology
2. To apply various epidemiological study designs for research in the domain
3. To study collection and handling of data related to socio-demographic profile and dietary intake of the community

Theory:

Principles of nutritional epidemiology: objective of nutritional epidemiological research, interpretation, systematic reviews, role of meta-analysis; Nutritional epidemiological studies: classification, uses in research, selection of right study; Socio-demographic and psycho- social variables; Sampling, study size and power of study: types of sampling, variability, sample size, power of studies; Food consumption, nutrient intake and the use of food composition tables: food consumption tables and nutrient databases, calculation on nutrient intake from data on food intake and composition of foods, food groups and food scores; Household surveys: characteristics of household data, techniques, uses and limitations, using household surveys in epidemiological studies; Individual surveys: methods for assessment of present or recent data, measurement error in dietary assessment, energy adjustment, effects of measurement error on validity, adjustment of intake in the distant past, problems of retrospective assessment in population sub-groups; Validation of dietary assessment: the

context of validation, validation techniques, factors affecting the design of validation studies, statistical techniques and interpretation.

Suggested Readings:

1. Frank, G.C. 2008. Community Nutrition: Applying Epidemiology to Contemporary Practice, 2nd ed. Jones and Bartlett Publishers Inc., Sudbury, MA, USA.
2. Margetts, B.M. and M. Nelson. Design Concepts in Nutritional Epidemiology, 2nd Ed. Oxford University Press, New York, USA.
3. Rothman, K.J., S. Greenland and T.L. Lash. 2008. Modern Epidemiology, 3rd ed. Lippincott & Wilkins, Philadelphia, PA, USA.
4. Spark, A. 2007. Nutrition in Public Health: Principles, Policies and Practice. CRC Press, Taylor & Francis, Boca Raton, FL, USA.
5. Walter, W. 2013.Nutritional Epidemiology, 3rd ed. Oxford University Press, New York, USA.

HND-410 Food Microbiology 3(2-2)

Learning Outcomes:

1. To identify various types of microorganisms based on morphological, cultural and physiological characteristics
2. To grasp knowledge about the microbial contamination of foods and factors affecting the growth of microorganisms
3. To familiarize students about food borne infections, intoxications and role of probiotics in our daily life

Theory

Food microbiology: introduction and scope; Important microbial genera in foods: bacteria, mold, yeast and yeast like fungi, viruses general, morphological, cultural and physiological characteristics; Factors affecting the growth and survival of microorganisms in food: intrinsic, extrinsic and implicit; Contamination and spoilage of perishable, semi perishable and stable foods: sources, transmission, microorganisms; Food microbiology and public health: food-borne infections: intoxications; Microbiological risk assessment; Microbiology in food sanitation: food sanitizers and pathogen reduction a case study; Food fermentation; Probiotics in human health.

Practical:

Isolation, identification and characterization of microorganisms: morphology, biochemical; Enumeration of microorganisms in food and water samples (total count, viable count, MPN);

Examination of foods for pathogenic organisms (*Escherichia coli*, Coliform, *Salmonella* and *Listeria* monocytogenes); Preparation of fermented and probiotic enriched food products.

Suggested Readings:

1. Adams, M.R. and M.O. Moss. 2006. Food Microbiology. The Royal Society of Chemistry, Cambridge, UK.
2. Adams, M.R., M.O. Moss and P. McClure. 2016. Food Microbiology, 4th ed. Royal Society of Chemistry, Cambridge, UK.Brown, M. and M. Stringer. 2002. Microbiological risk assessment in food processing. Woodhead Publishing Ltd. Cambridge, UK.
3. Frazier, W.C., D.C. Westhoff and K.N. Vanitha. 2013. Food Microbiology, 5th ed. McGraw-Hill Book Co., New York, USA.
4. Montville, T.J., K.R. Mathews and K.E. Kniel. 2012. Food microbiology: an introduction, 3rd ed. ASM Press, Washington DC, USA.
5. Ray, B. and A. Bhunia. 2013. Fundamentals of Food microbiology, 5th ed. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.

HND-412 Assessment of Nutritional Status 3(2-2)

Learning Outcomes:

1. To impart hands-on training in nutritional assessment techniques to diagnose health problems
2. To understand and apply dietary guidelines for standard nutrient intake To select an appropriate method for measuring dietary needs of hospitalized patients.

Theory:

Nutritional assessment systems: nutrition surveys, nutrition surveillance, nutrition screening. Nutritional assessment methods: anthropometrics, biochemical, clinical, dietary. Measuring food consumption at national level: food balance sheets, total diet consumptions. Food consumption at the household levels: food account, household food records, household 24-hour food record. Measuring food consumption at individual levels: 24-hour recall, repeated 24-hour recall, weighed food records, diet history, food frequency questionnaire. Selecting an appropriate method: determining the mean nutrient intake, calculating the population at risk, ranking individuals by food and nutrient intake.

Practical:

Practicing methods of nutritional assessment (ABCD of Nutritional assessment); Comparison of the data with references values for drawing conclusions.

Suggested Readings:

1. Driskell, J.A. and Wolinsky, I. 2011. Nutritional Assessment of Athletes, 2nd ed. CRC Press, Taylor & Francis Group, New York, USA.
2. Gibson, R.S 2005. Principles of Nutrition Assessment. Oxford University Press Inc., New York, USA.
3. Lee, R.D. and Nieman, D.C. 2012. Nutritional Assessment, 6th ed. The McGraw-Hill Companies Inc., New York, USA.
4. McGuire, M. and Beerman, K.A. 2011. Nutritional Sciences: From Fundamentals to Food. Cengage Learning, Belmont, CA, USA.

Semester-V

Sr. No	Course Code	Course Name	Credit Hours
1	HND-501	Dietetics-I	3 (2-2)
2	HND-503	Nutrition and Phycology	3 (3-0)
3	HND-505	Food and Drug Laws	2 (2-0)
4	HND-507	Nutritional Education and Awareness	3 (2-2)
5	HND-509	Clinical Biochemistry	3 (2-2)
6	HND-511	Functional Foods and Nutraceuticals	3 (3-0)
7	HND-513	Public Health Nutrition	3 (2-2)

HND-501 Dietetics-I 3(2-2)

Learning Outcomes:

1. To understand the discipline of dietetics and its role in human wellbeing.
2. To familiarize with the foundations of healthy diets and their role in disease prevention and management
3. To acquaint hands-on training for calorie calculation and menu planning using food composition table and data bases
4. To assess BMI and energy expenditures in relation to overweight and obesity

Theory:

Dietetics: definitions, history, importance; Dietitian: role in food service and clinical practice, responsibilities in multidisciplinary team, code of ethics; Foundations of healthy diet: Dietary Reference Intakes, Recommended Dietary Allowance, Food Guide Pyramid and allied approaches, Dietary Guidelines, Exchange system and menu planning; Energy expenditure and basal metabolism; Body mass index; Role of diet in disease conditions; Diet therapy and

its principles; Food selection and factors affecting its acceptance; Nutrient density; Alternative patterns of food consumption; Nutritional counselling in clinical practice. Critical diet assessment. Nutrition and diet clinics.

Practical:

Interpretation of food guide pyramid, My Pyramid, My plate, Eat well Plate; Energy value of different foods: carbohydrates, fats, proteins; Calculating energy requirements; BMI in relation to obesity and overweight, energy and calorie requirements; Balanced diet and menu planning using exchange lists, food composition tables & data bases; Food intake analysis: Dietary Recall, Food Frequency Questionnaires, Food Surveys.

Suggested Readings:

1. Mahan, L.K., S. Escott-Stump and J.L. Raymond. 2012. Krause's Food, Nutrition & Diet Therapy, 13th ed. Elsevier Saunders, St. Louis, Missouri, USA.
2. Mudambi, S.R. and M.V. Rajagopal. 2007. Fundamentals of Foods, Nutrition & Diet Therapy, 5th ed. New Age International Pvt. Ltd. Publishers, New Delhi.
3. Punekar, M. and J. D'Souza. 2010. Handbook of Applied Nutrition,
4. Dietotherapy and Diet Management. SBS Publishers & Distributors Pvt. Ltd., New Delhi.
5. Rawat, S. 2015. Applied Nutrition. Random Publication, New Delhi.
6. Schlenker, E. and J.A. Gilbert. 2015. Williams' Essentials of Nutrition and Diet Therapy, 11th ed. Elsevier/Mosby Inc., Louis, Missouri. Singh, J. 2008. Handbook of Nutrition and Dietetics. Lotus Press, India.

HND-503 Nutrition and Psychology 3(3-0)

Learning Outcomes:

1. To understand psychology, its types and importance in nutrition
2. To abreast the impact of psychological influences on appetite and attitude behavior relationship

Theory:

Psychology: introduction, types, classification; Psychology and nutrition adherence; Attitude and eating patterns and the field of cognitive psychology; Perception, visualization and eating patterns, errors in perception process; Eating disorders: diagnosis, assessment and treatment; Face perception; Conceptual model of food choice; Psychological influences on appetite; Process over the life course, integration of biological, social, cultural and psychological influences on food choice; Understanding behaviour: sensation, sense organs/special organs, attention and concentration, memory and its stages, methods for improvement, types and

theories of thinking, cognition and levels of cognition, problem solving and decision making strategies, attitude behavior relationship; Measurement issues, indirect effects of attitude on behavior; The theory of reasoned action; Additional variables within the theory of planned behavior; Personality and intelligence; Stress management.

Suggested Readings:

1. Blackman, M.C. and C.A. Kvaska. 2011. Nutrition Psychology: Improving Dietary Adherence. Jones and Bartlett Learning Publishers, Ontario, Canada.
2. Booth, D.A. 1994. The Psychology of Nutrition. Taylor & Francis Inc., Bristol, PA, USA.
3. Elmes, D.G., B.H. Kantowitz and H.L. Roediger. Research Methods in Psychology, 9th ed. Wadsworth Cengage Learning, Belmont, CA, USA.
4. Jane O. 2010. The Psychology of Eating: From Healthy to Disorders Behavior, 2nd ed. Wiley Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.

HND-505 Food and Drug Laws 2(2-0)

Learning Outcomes:

1. To get know how about the existing food and drug laws prevailing in the country
2. To understand duties and authorities of food safety officers and drug inspectors
3. To familiarize with food and drug laws enforcement agencies in Pakistan

Theory

Punjab Pure Food Rules 2011: legal terms and definitions from the food industry; Rules for food additives, categories, permissible limits; Food packaging: rules, criteria for packaging material, labelling requirements; Duties and responsibilities of public analysts and food safety officer; The Drug Regulatory Authority of Pakistan Act, 2012; DRAP Alternative Medicines and Health Products Enlistment Rules 2014; Halal food dietary laws. Consumer protections laws in Pakistan; The Punjab Consumer Protection Rules 2009; The Punjab Consumer Protection Act 2005; The Pakistan Hotels and Restaurants Act, 1976; The Punjab Food Authority Act 2011; The Pakistan Halal Authority Act 2015; Pakistan National Accreditation Council; Punjab Halal Development Agency; Pakistan Standards and Quality Control Authority (PSQCA); Role of electronic and print media in public awareness and empowerment.

Suggested Readings:

1. GOP. 2005. The Punjab Consumer Protection Act 2005. Government of the Punjab, Lahore, Pakistan.
2. GOP. 2011. Punjab Pure Food Rules 2011. Health Department, Government of the

Punjab, Lahore, Pakistan.
3. GOP. 2012. Drug Regulatory Authority of Pakistan Act, 2012 The Drug Regulatory Authority of Pakistan, Government of the Pakistan, Islamabad.
4. GOP. 2015. Pakistan Halal Authority Act, 2015. Minister for Science and Technology, Government of the Pakistan, Islamabad.

HND-507 Nutritional Education and Awareness 3(2-2)

Learning Outcomes

1. To learn the techniques of creating awareness about health issues in masses
2. To acquire information about different modes of communication and their effective use
3. To understand the ethical responsibilities for dissemination of knowledge

Theory:

Nutrition education: introduction, history, need, competencies and skills, framework, training needs, new development; Nutrition education programs: scope and challenges of educating people about eating well; Biological influences, cultural and social preferences; Education and communication strategies for different groups and settings; Evaluation of nutrition education programs; Family and psychological factors; Expectancy-value theories of motivation, social and cognitive theory; Behavior change as a process, phases of change; Addressing multiple and overlapping influences on behavior; A logical model approach for planning a framework of nutrition education; Understanding communication model, preparing/organizing oral presentations, delivering oral presentation, delivering nutrition education workshops, types of supporting visual aids, nutrition mass media communication campaigns, social marketing; Ethics in nutrition education, conflicts, participating process in community coalition; Non-government and public health organizations and their current programs.

Practical:

Nutritional counselling; Program designing for specific diseases like anemia, neural tube defects, rickets, etc.; Surveys and seminars in different educational institutions; Individual presentations by students on different nutrition topics; Visits of public places for nutrition awareness; Independent student projects.

Suggested Readings:

1. Contento, I.R. 2007. Nutrition Education: Linking Research, Theory and Practice. Jones and Bartlett Publishers, Ontario, Canada.

2. FAO. 1997. Nutrition Education for the Public: Discussion Papers of the FAO Expert Consultation. Food and Agriculture Organization of the United Nations, Rome, Italy.
3. Semba, A.D. and M.W. Bloem. 2008. Nutrition and Health in Developing Countries, 2nd ed. Humana Press, New York, USA.
4. Walter, W. 2013. Nutritional Epidemiology, 3rd ed. Oxford University Press, New York, USA.

HND-509 Clinical Biochemistry 3(2-2)

Learning Outcomes:

1. To understand the role and requirements of clinical laboratory and how chemical and biochemical analysis are applied to the study of disease
2. To discuss the function, structure, laboratory investigation and diseases of the different body systems
3. To correlate laboratory findings in clinical samples with various pathological processes

Theory:

Clinical laboratory: organization and management, safety, good lab practices, quality control and assurance, reference range and normal values, laboratory data processing; Handling and processing of clinical samples; Effect of storage on composition of samples; Commonly used instruments in clinical laboratory: Microscope, Minilab apparatus, X-ray, ECG, MRI, ELISA reader, CT scan etc.; Symptomlogy and case histories of various diseases. Forensic science, Molecular basis of diagnosis.

Practical:

Blood sampling techniques; Complete blood picture (CBP) like Hb, PCV, ESR, TLC, DLC, bleeding time, clotting time, prothrombin time and blood groups; Pregnancy test; Liver function tests; Kidney function test; Cardiac enzymes; Lipid profile, total proteins, albumin and serum minerals; Urine analysis for bile pigments, protein, urea, pH, ketone bodies, sugars, creatinine, pus cells, RBCs and uric acid; Sero-diagnosis of infectious diseases; Visit to clinical laboratory/concerned organization.

Suggested Readings:

1. Ahmed, N. 2011. Clinical Biochemistry. Oxford University Press, Oxford, UK.
2. Bain, B.J., I. Bates, M.A. Laffan and S.M. Lewis. 2012. Practical Haematology, 11th ed. Churchill Livingstone, Elsevier Ltd., New York, USA.
3. Burtis, C., E. Ashwood and D. Burns. 2006. Tietz Text Book of Clinical Chemistry and Molecular Diagnostics, 4th ed. Elsevier Saunders Company, Philadelphia, USA.

4. Chawala, R. 2014. Practical Clinical Biochemistry: Methods and Interpretations, 4th ed. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi, India.
5. Devlin, T. M. 2005. Textbook of biochemistry with clinical correlations, 6th ed. Wiley-Liss, Inc., U.S.A.

HND-511 Functional Foods and Nutraceuticals 3(3-0)

Learning Outcomes:

1. To find out sources of functional foods & nutraceuticals and their impact on nutrition and health
2. To familiarize with the standards and regulations used globally regarding regulatory issues and usage of functional foods
3. To assess international trade and marketability of functional foods

Theory:

Functional foods and nutraceuticals: past, present, future and health claims; functional foods and their impact on nutrition and health obesity, diabetes, cardiovascular diseases, hypertension and cancer; Functional ingredients and bioactive molecules: Isoflavones, lycopene, polyphenols, dietary fiber, omega-3-6 fatty acids, conjugated linoleic acid, antioxidants, prebiotic and probiotic; Functional foods from different food groups: cereals, dairy, meat, fruits and vegetables; Regulatory systems governing the production and distribution of functional food -national and international; Standard and regulations of various agencies: FDA, EC, FAO/WHO, Health Canada; Guidelines for the assessment of functional foods; Marketing and regulatory issues; Conventional and emerging food processing technologies for functional food production; Toxicological and safety aspects of functional foods; Asian functional foods; Functional foods in international market and growth in Pakistan.

Suggested Readings:

1. FAO (Food and Agriculture Organization of the United Nations). 2007. Report on Functional Foods. Food and Agriculture Organization of the United Nations, Rome, Italy.
2. Shi, J., C.T. Ho and F. Shahidi. 2005. Asian Functional Foods. Marcel Dekker/CRC Press, New York, U.S.
3. Shi, J., G. Mazza and M.L. Maguer. 2002. Functional Foods: Biochemical and Processing Aspects, Vol. 2. CRC Press, Traylor & Francis Group, Boca Raton, New York, USA.
4. Wildman, R.E.C. 2006. Handbook of Nutraceuticals and Functional Foods, 2nd ed.

CRC Press, Traylor & Francis Group, Boca Raton, New York, USA.

HND-513 Public Health Nutrition 3(2-2)

Learning Outcomes:

1. To figure out global and local scenario of public health nutrition
2. To understand the core concepts and assessment methods at the population level
3. To acquaint hands-on training for development of policies related to nutrition and possible gaps in the matrix of nutrition policies.

Theory:

Public health nutrition: overview, concepts, determinants, foundations; Disease burden and its control; Health promotion and disease prevention; Modes of intervention, monitoring and surveillance; Safety and health at work place; Public health nutrition: assessment and programs. Nutritional surveillance and growth monitoring; Public health policies and strategies; Marketing nutrition programs in public; Public health nutrition: a field of practice; Public health nutritionist: competencies, duties, responsibilities, ethics.

Practical:

Food and nutrition surveys for monitoring of public health; Community need assessment; Planning, implementation and monitoring nutrition intervention program based on the need assessment of the community; Marketing nutrition programs in the public; Visit of various public health departments.

Suggested Readings:

1. Edelstein, S. 2011. Nutrition in Public Health: A Handbook for Developing Programs and Services, 3rd ed. Jones & Bartlett Learning, Sudbury, M.A, USA.
2. Gibney, M.J., B.M. Margette and J.M. Kearney. 2004. Public Health Nutrition. Blackwell Science Ltd. Oxford, UK.
3. Lawrence, M. and T. Worsley. 2007. Public Health Nutrition: From Principles to Practice. Allen & Unwin Book Publishers, Australia.
4. McKenzie, J.F. and R.R. Pinger. 2015. An Introduction to Community & Public Health. 8th ed. Jones & Bartlett Learning, LLC Burlington, MA, USA.
5. Spark, A. 2007. Nutrition in Public Health: Principles, Policies and Practice. CRC Press, Taylor & Francis, Boca Raton, FL, USA.

Semester-VI

Sr. No	Course Code	Course Name	Credit Hours
1	HND-502	Dietetics-II	3(2-2)
2	HND-504	Nutrition in Emergency	3(3-0)
3	HND-506	Nutrition through Life Cycle	3(3-0)
4	HND-508	Nutritional Practices in Clinical Care	3(2-2)
5	HND-510	Infant and Young Child Feeding	3(2-2)
6	HND-512	Medical Nutrition Therapy	3(3-0)

HND-502 Dietetics-II 3(2-2)

Learning Outcomes:

1. To comprehend the principles of diet therapy and therapeutic nutrition
2. To understand the role of dietary management in various health disorders related to upper and lower gastrointestinal tract, hepatic, pancreas and coronary heart diseases
3. To acquaint hands-on training for the dietary modification of normal diets aligned with various health disorders
4. To prepare pre- and post-operative diets

Theory:

Introduction to diet therapy; Principles of diet therapy and therapeutic nutrition; Therapeutic modifications of normal diets; Dietary management in various health disorders (objective, physiology, food choices, diet plans): Diet in the diseases of the upper gastrointestinal tract – mouth, dental disease, pharynx, esophagitis; hiatal hernia; gastritis; peptic ulcer; Diet in the diseases of the lower gastrointestinal tract - constipation, diarrhoea, mal-absorption syndrome, lactose Intolerance, celiac disease, inflammatory bowel disease, Crohn's disease, ulcerative colitis, irritable bowel syndrome, diverticular disease, gastric surgery, dumping syndrome, small bowel resections, short bowel syndromes, blind loop syndrome, ileostomy or colostomy; Diet in the diseases of liver and accessory organs - hepatitis, hepatic steatosis, non-alcoholic hepatic steatosis, alcoholic liver disease, cirrhosis, hepatic encephalopathy; cholelithiasis, cholecystitis, cholangitis; Pancreatitis; Nutrition education and primary health care camp.

Practical:

Steps in nutrition care; Types of diets: regular diet, clear liquid diet, full liquid diet, soft diet, bland diet; Dietary modification for texture, energy, nutrients and fluids; Planning of energy

modified diets: high calorie diet, restricted calorie diet, high fiber diet, low residue diet, modified carbohydrates diet, moderate carbohydrate diet, modified fat diet, restricted fats diet; Planning and preparation of diets for various pathological conditions; Nutrition in surgical conditions: pre-operative and post-operative diets; Enteral and parenteral feeding; Hospital visits and nutrition camps.

Suggested Readings:

1. Mahan, L.K., S. Escott-Stump and J.L. Raymond. 2012. Krause's Food, Nutrition & Diet Therapy, 13th ed. Elsevier Saunders, St. Louis, Missouri, USA.
2. Mudambi, S.R. and M.V. Rajagopal. 2007. Fundamentals of Foods, Nutrition & Diet Therapy, 5th ed. New Age International Pvt. Ltd. Publishers, New Delhi.
3. Punekar, M. and J. D'Souza. 2010. Handbook of Applied Nutrition, Dietotherapy and Diet Management. SBS Publishers & Distributors Pvt. Ltd., New Delhi.
4. Rawat, S. 2015. Applied Nutrition. Random Publication, New Delhi.
5. Schlenker, E. and J.A. Gilbert. 2015. Williams' Essentials of Nutrition and Diet Therapy, 11th ed. Elsevier/Mosby Inc., Louis, Missouri.
6. Singh, J. 2008. Handbook of Nutrition and Dietetics. Lotus Press, India.

HND-504 Nutrition in Emergency 3(3-0)

Learning Outcomes:

1. To understand the context in which emergencies occur and nutritional assessment of the individuals and populations
2. To design and implement interventions for prevent and treatment of malnutrition
3. To familiarize with the role of national and international agencies in the management of emergencies

Theory:

Introduction and concepts: understanding malnutrition, micronutrient malnutrition, causes of malnutrition; Nutrition needs assessment and analysis: individual and population assessment, health assessment and the link with nutrition, food security assessment and the link with nutrition, nutrition information and surveillance systems; Interventions to prevent and treat malnutrition: general food distribution, supplementary feeding, therapeutic care, micronutrient interventions, health and livelihood interventions, infant and young child feeding, HIV and AIDS nutrition; Nutrition information, education and communication; Monitoring and evaluation, standards and accountability; Role of national and international

agencies: UNHCR, WFP, NDMA (National disaster management authority), Civil defence; Hygiene and sanitation; Emergency foods.

Suggested Readings:

1. ENN (Emergency Nutrition Network). 2011. The harmonized training package (HTP): resource material for training on nutrition in emergencies, version 2. Nutrition Works, Emergency Nutrition Network, Global Nutrition Cluster. Oxford, U.K.
2. FAO. 2005. Protecting and Promoting Good Nutrition in Crisis and Recovery: Resource Guide. Food and Agriculture Organization of the United Nations, Rome, Italy.
3. SC (Save the Children Fund UK). 2004. Emergency nutrition assessment: guidelines for field workers. Save the Children, Westport, U.K.
4. WHO (World Health Organization). 2000. The management of nutrition in major emergencies. World Health Organization, Geneva, Switzerland.

HND-506 Nutrition through Life Cycle 3(3-0)

Learning Outcomes:

1. To analyze the nutritional needs during conception, infancy, childhood, adolescence, male and female adults, pregnancy, lactation and during aging
2. To suggest dietary recommendations in special clinical conditions

Theory:

Preconception nutrition: overview, reproductive physiology, nutrition related disruption in fertility, nutrition and contraceptives, other nutrition concerns, premenstrual and polycystic ovary syndrome, obesity and fertility, diabetes prior to pregnancy, disorders of metabolism. Nutrition during pregnancy: status of pregnancy outcomes, embryonic and fetal growth & development, pregnancy weight gain, nutrition and outcome of the pregnancy, common health problems during pregnancy, nutrient needs and dietary guidelines during pregnancy. Nutrition and lactation: human milk composition, benefits of breast feeding, breast milk supply and demand, maternal diet during lactation, factors influencing breastfeeding initiation and duration, common breast feeding conditions, medical contradictions in breast feeding. Infant nutrition: assessing new born health, energy and nutrient needs, development of infant feeding skills, common nutritional problems and concerns, infants at risk. Toddlers and pre-schooler nutrition: normal growth and development, energy and nutrient needs, common nutritional problems,

nutrition related conditions, food allergies and intolerances. Child and pre-adolescent nutrition: normal growth and development, energy and nutrient needs, common nutritional problems, prevention of nutrition related disorders, dietary recommendations. Adolescent nutrition: normal physical growth and development, health and eating related behavior, energy and nutrient requirements, overweight and obesity, eating disorders. Adult nutrition: physiological changes of adulthood, maintaining a healthy body, dietary recommendations, nutrient recommendations, nutrition intervention for risk reduction. Geriatric nutrition: physiological changes, nutritional risk factors, dietary recommendations and food safety, nutrient recommendations, nutrition in special clinical conditions.

Suggested Readings

1. Brown, J.E. 2014. Nutrition through the Life Cycle, 5th ed. Cengage Learning, Belmont, CA, USA.
2. Rolfes, S.R., K. Pinna and E. Whitney. 2015. Understanding Normal and Clinical Nutrition, 10th ed. Thomson and Wadsworth Publishers, USA.
3. Shetty, P. 2002. Nutrition Through the Life Cycle. Leatherhead International Ltd. And Royal Society of Chemistry, Cambridge, U.K.
4. Worthington-Roberts, B.S. and S.R. Williams. 2000. Nutrition Throughout the Life Cycle. The McGraw-Hill Education, Maidenhead, Berkshire, U.K.

HND-508 Nutritional Practices in Clinical Care 3(2-2)

Learning Outcomes:

1. To understand and create a patient-centered nutrition care plan based on sound nutrition principles, scientific evidence and biomedical reasoning.
2. To assess various physiological conditions and prepare diet plans accordingly
3. To acquaint hands-on training in the field of enteral and parenteral nutrition

Theory:

Importance of clinical care nutrition support; Nutritional screening and assessment; The therapeutic process, stress of the therapeutic encounter, focus of care, phases of the care process; Quality patient care and collaborative roles of nutritionists and nurses; Modified diets for various physiological needs; Enteral nutritional: composition, nutritional prescription (dose), strategies to optimize delivery and minimize risks, pediatric enteral feeding; Total parenteral nutrition; composition, intravenous nutritional prescription (dose) for specific conditions; Percutaneous endoscopic gastrostomy and radiologically inserted

gastrostomy; Complications in enteral and parenteral nutrition; Nutritional therapy in diseases of infancy and childhood; Drug-nutrient interactions: drug effects on food and nutrients, food effects on drug absorption, food effects on drug; Dietary supplements.

Practical:

Nutritional assessment of patients: selection, nutritional requirements; Tube feeding: types, feeding equipment, preparation and application of enteral/naso-gastric diets, monitoring the tube-fed patient; Total parenteral nutrition: basic rules, techniques, prescription, preparation of total parenteral solution; Preparation of pre- and post-operative diets; Case studies and logbooks; Hospital visits.

Suggested Readings:

1. Block, A.S., J. Maillet, W.H. Howell and M.F. Winkler. 2007. Issues and Choices in Clinical Nutrition Practice. Lippincott Williams & Wilkins, Philadelphia, PA, USA.
2. Katsilambros, N., C. Dimosthenopoulos, M.D. Kontogianni, E. Manglara and K.A. Poulia. 2010. Clinical Nutrition in Practice, 1st ed. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
3. Katz, D.L. 2008. Nutrition in Clinical Practice, 2nd ed. Lippincott Williams & Wilkins, Phil.adelphia, PA, USA.
4. Rolandelli, R.H., R. Bankhead, J. I. Boullate and C.W. Compher. 2005. Clinical Nutrition; Enteral and Tube Feeding. 4th ed. Elasvier Sauders Publishers, USA.
5. Rolfes, S.R., K. Pinna and E. Whitney. 2015. Understanding Normal and Clinical Nutrition, 10th ed. Thomson and Wadsworth Publishers, USA.

HND-510 Infant and Young Child Feeding 3(2-2)

Learning Outcomes

- To identify problems affecting infant and young child feeding and provide a framework of essential interventions
- To create an environment that will enable mothers, families and other caregivers to implement optimal feeding practice

Theory:

Infant young child feeding: introduction, global strategy, importance of breastfeeding, local and international scenario, breastfeeding working; Breastfeeding practices: assessing a breastfeed, taking a feeding history, common breastfeeding difficulties, expressed breast milk; Breastfeeding counselling: listening and learning, building confidence and giving support, counselling for infant feeding decisions, counselling

cards tools; Complementary feeding practices: importance, cup-feeding and hygienic preparation of food, replacement feeding in the first 6 months, foods to fill energy and micronutrients gap, quantity and frequency of feeding, feeding techniques, food demonstration; Breastfeeding related topics: growth charts, maternal illnesses and breast feeding, breast conditions, health care practices, International code of marketing of breast milk substitutes, checking understanding and arranging follow-up, feeding during illness and low-birth-weight babies; Feeding guidelines of various global agencies – WHO etc.; Complex challenges to implementing the global strategy for infant and young child feeding.

Practical:

Breastfeeding counselling; Preparation of indigenous complementary foods; Therapeutic foods; Infant formulas for various needs; Growth monitoring: APGAR (Appearance, Pulse rate, Grimace, Activity and Respiration) score, Growth charts. Visits of hospitals and day care centers.

Suggested Readings:

1. Behan, E. 2008. The baby Food Bible – A Complete Guide to Feeding Your Child from Infancy On, 1st ed. Random House Publishing Group, New York, USA.
2. Dykes, F. and V.H. Moran. 2009. Infant and Young Child Feeding: Challenges to Implementing a Global Strategy. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
3. Samour, P.Q. and K. King. 2010. Pediatric Nutrition, 4th ed. Jones & Bartlett Learning, Mississauga, Canada.
4. WHO. 2003. Global Strategy for Infant and Young Child Feeding. World Health Organization, Geneva, Switzerland.
5. WHO/UNICEF/GOP (World Health Organization/United Nation's Children Fund/Government of Pakistan). 2008. Infant and young child feeding counselling: an integrated course. Nutrition Wing, Ministry of Health, Government of the Pakistan, Islamabad.

Semester-VII

Sr. No	Course Code	Course Name	Credit Hours
1	HND-601	Dietetics-III	3 (2-2)
2	HND-603	Food and Drug Interaction	2 (2-0)
3	HND-605	Global Food Issues	3 (3-0)

4	HND-607	Research Method in Nutrition	3 (3-0)
5	HND-609	Sports Nutrition	3 (2-2)
6	HND-611	Nutritional Deficiency Disorders	3 (3-0)

HND-601 Dietetics III 3(2-2)

Learning Outcomes:

1. To understand the role of nutrition and dietetics in managing disease and preventing complications
2. To get hands-on training for the dietary modification of normal diets aligned with various health disorders
3. To comprehend the role of nutrition education and policies towards nutrition security

Theory:

Diet based regimen to improve the public health; Diet supplementation for diseased patients; Malabsorption and mineral deficiency; Health diets and lifestyles; Preventing diet related diseases; Nutritional implications of various diets; Managing disease and avoiding complications through diet diversification; Dietary management in various health disorders (objective, physiology, food choices, diet plans): obesity, leanness and underweight; coronary heart disease: dyslipidemia, hypertension, ischemic heart disease, heart failure; fevers and infections; diabetes mellitus; diseases of respiratory system: cystic fibrosis, asthma; rheumatic diseases: rheumatoid arthritis, osteoarthritis & gout; inborn errors of metabolism: Phenylketonuria, Maple syrup urine disease, galactosemia, glycogen storage disease; renal diseases; burn; surgical conditions; bacterial overgrowth; infections; AIDS; food allergy; protein energy malnutrition; micronutrient deficiencies; Policy principles for promotion of healthy diets; Incorporating nutrition objectives into development policies; Strategic actions and for promoting healthy diets; Drawing up of nutrition education programs; Role of specialist in dietetics and diseases.

Practical:

Planning of modified diet: consistent carbohydrate diet, moderate carbohydrate diet; Modified proteins diet: high protein diet, restricted protein diet; Modified fats diet: restricted fats diet; Modified micronutrients diet; Controlled sodium, potassium and phosphorus diet; Dietary management in various health disorders; Hospital visits and nutrition camps.

Suggested Readings:

1. Mahan, L.K., S. Escott-Stump and J.L. Raymond. 2012. Krause's Food, Nutrition &

Diet Therapy, 13th ed. Elsevier Saunders, St. Louis, Missouri, USA.
2. Mudambi, S.R. and M.V. Rajagopal. 2007. Fundamentals of Foods, Nutrition & Diet Therapy, 5thed. New Age International Pvt. Ltd. Publishers, New Delhi.
3. Punekar, M. and J. D'Souza. 2010. Handbook of Applied Nutrition,
4. Dietotherapy and Diet Management. SBS Publishers & Distributors Pvt. Ltd., New Delhi.
5. Rawat, S. 2015. Applied Nutrition. Random Publication, New Delhi.
6. Schlenker, E. and J.A. Gilbert. 2015. Williams' Essentials of Nutrition and Diet Therapy, 11th ed. Elsevier/Mosby Inc., Louis, Missouri.
7. Singh, J. 2008. Handbook of Nutrition and Dietetics. Lotus Press, India.

HND-603 Food and Drug Interaction 2(2-0)

Learning Outcomes:

1. To raise the awareness of potential drug-nutrient interactions and influence on clinical outcomes
2. To understand complex underlying mechanisms responsible for drug-nutrient interactions
3. To identify factors that can promote drug-nutrient interactions and contribute to nutrition and/or therapeutic failure
4. To integrate knowledge of pharmacology, nutrient-nutrient and drug-nutrient interactions into the nutrition care process

Theory:

Basic definitions and concepts: Role of nutrition therapy in pharmacotherapy; Pharmacologic aspects of food and drug interactions; Routes of drug administration; Pharmacodynamics; Pharmacokinetics, absorption, distribution, metabolism, elimination; Effects of food on drug therapy, drug absorption, drug distribution, drug metabolism and drug excretion; Effects of drugs on food and nutrition, nutrient absorption, metabolism and excretion; Effects of drugs on the nutritional status of patients e.g. taste, smell and type of intake; Enteral feeding: drug/nutrient interaction; Gastrointestinal effects, appetite changes; Nutrient assessment of drug-nutrient interactions; Dietary counseling for the prevention of food drug interactions.

Suggested Readings:

1. Boullata, J.I. and V.T. Armenti. 2010. Handbook of Drug-Nutrient Interactions, 2nd ed. Humana Press, New York, USA.

2. Mahan, L.K. and S. Escott-Stump. 2007. Krause's Food & Nutrition Therapy. Elsevier – Health Sciences Division. Philadelphia, USA.
3. McCabe-Sellers, B., E.H. Frankel and J.J. Wolfe. 2003. Handbook of Food-Drug Interactions, CRC Press, Taylor & Francis Group, Boca Raton, FL., USA.
4. Nelms, M.N. and K.P. Sucher. 2016. Nutrition Therapy and Pathophysiology, 3rd Ed. Cengage Learning, Belmont, CA, USA.

HND-605 Global Food Issues 3(3-0)

Learning Outcomes:

- To acquaint knowledge about global food issues having impact on food and nutrition security
- To understand the role of global organizations in food production, consumption and trade
- To study the impact of climate change and other threats on global food availability

Theory:

World food situation; Food and nutrition security; The green revolution: Worldwide post-harvest losses; Global malnutrition: protein energy malnutrition and hidden hunger; Overweight & obesity; Worldwide food price fluctuations; Importance of per capita earning, consumption and purchase power; Irrational food consumption behaviour; Contribution of cereals, legumes, roots, tubers and animal products; World food policy; WTO's trade regulations; Food bioterrorism; International food laws: European and American; Potentials of modern biotechnology to combat food insecurity; Genetically modified foods. Organic, Kosher and Halal Foods; Millennium development goals to sustainable development goals. Global Trends. Climate change.

Suggested Readings:

1. Barbosa-Canovas, G., A. Mortimer, D. Lineback, W. Spices, K. Buckle and P. Colonna. 2009. Global Issues in Food Science and Technology. Academic Press, Elsevier Inc., Burlington, MA, USA.
2. Barrientos, S. and C. Dolan. 2006. Ethical Sourcing in the Global Food System. Earthscan, New York, USA.
3. Hajra, M.A. 2013. Global Food Security: Emerging Issues and Economic Implications. Nova Science Publishers, New York, USA.
4. Oosterveer, P. 2007. Global Governance of Food Production and Consumption: Issues & challenges. Edward Elgar Publishing Inc., Massachusetts, USA.

5. Phoenix, L.E. and L. Walter. 2009. Critical Food Issues: Problems and State of the Art Solutions Worldwide, Vol. I & 2. ABC-CLIO, LLC, Santa Barbara, California, USA.

HND-607 Research Method in Nutrition 3(3-0)

Learning Outcomes:

1. To apply tools and skills required to understand published research
2. To identify the types of methods best suited for investigating different types of problems and questions
3. To get hands-on training of writing successful research proposals for thesis and projects
4. To abreast ethical consideration in research and publications

Theory:

Research methods in nutrition: Introduction, objectives, types of research: basic and applied, quantitative and qualitative, clinical and diagnostic; Types of sampling: probability and non-probability; Collection of literature: printed and electronic sources, managing literature; Methods of data collection; Writing scientific documents: synopsis, research proposal, articles, references, internship report. Research designs: observational studies, cross-sectional, case-control, cohort (prospective, retrospective, time-series); Experimental studies: observational studies, clinical studies. Experimental data analysis: incidence/ prevalence rate; Research ethics.

Suggested Readings:

1. Awan, J.A. 2015. Scientific Presentations. Unitech Communications, Faisalabad, Pakistan.
2. Lovegrove, J.A., L. Hodson, S. Sharma and S.A. Lanham-New. 2015. Nutrition Research Methodologies. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
3. Lowe, M. 2007. Beginning Research: A Guide for Foundation Degree Students, 1st ed. Routedge Publications, New York, USA.
4. Starks, T.P. 2006. Trends in Nutrition Research. Nova Science Publishers, Inc., New York, USA.
5. Walliman, N. 2005. Your Research Project, A Step by Step Guide for The First-time Researcher, 2nd ed. Sage Publications, Thousand Oaks, CA, USA.

HND-609 Sports Nutrition 3(2-2)

Learning Outcomes:

1. To emphasize the importance of proper fueling for physical activity, pre-and post-workout
2. To provide an overview about dietary supplements, how they are regulated and how to avoid use of contaminated dietary supplements
3. To highlight the risks associated with performance enhancing drugs including anabolic androgenic steroids

Theory:

The principles of fitness, motivation and conditioning; Nutrition for the athletes, stress management, preventing accidents, stretching, posture and aerobics; Vitamins and minerals supplementation for fitness; High and low intensity exercise, cross training, walking for weight control and case studies; Introduction to muscle contraction, fast and slow fibres, energy storage, fuels used for exercise; Energy balance, fluid balance, fuelling cycle: Pre- exercise, during exercise and during recovery; Athletes eating plan, calorie goals, calorie values, carbohydrate goals, protein goals, fat, vitamins and mineral goals; Competition nutrition; Loosing, gaining and making weight for athletes; Eating disorder and athletes; Sports drink and supplementation; National and international regulations for supplements; Risks associated with performance enhancing drugs; Metabolic Equivalent Task; My pyramid for sportsman.

Practical:

Bioelectric impedance analysis; Sweat rate and hydration status calculation; Calculation of BMR and RMR; Diet planning for different sportsmen like body builders, athletes, swimmers, etc. Preparation of sports drinks and food products according to accelerated needs; Use of sports supplements. Visit of sports; centres and fitness clubs.

Suggested Readings:

1. Antonio, J., D. Kalman, J.R. Stout, M. Greenwood, D.S. Willoughby and G.G. Haff. 2008. Essentials of Sports Nutrition and Supplements. Humana Press, New York, USA.
2. Driskell, J.A. 2007. Sports Nutrition Fats and Proteins. CRC Press, Taylor and Francis Group, Boca Raton, FL, USA.
3. Fink, H.H., A.E. Mikesky and L.A. Burgoon 2011. Practical Applications in Sports Nutrition, 3rd ed. Jones & Bartlett Learning Burlington, MA, USA.

4. Lanham-New, S.A., S.J. Stear, S.M. Shirreffs and A.L. Collins. 2011. Sports and Exercise Nutrition. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
5. Maughan, R.J. 2000. Nutrition in Sport: The Encyclopedia of Sports Medicine. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.

HND-611 Nutritional Deficiency Disorders 3(3-0)

Learning Outcomes:

1. To analyze existing global scenario of protein energy malnutrition and hidden hunger
2. To understand the causes & consequences of common micronutrient deficiencies and the scale of the problem
3. To discuss food based approached for the management of nutritional deficiency disorders

Theory:

Introduction and general concepts; Protein-energy malnutrition and hidden hunger: types, causative factors, clinical symptoms, management; Vitamin related deficiency disorders: Nyctolopia (night blindness), xerophthalmia and kerotomalacia; Rickets, osteomalacia, osteoporosis; Scurvy; Beriberi; Pallegra, Biotin Deficiency; Ariboflavinosis; Vitamin K deficiency; Hypocobalaminemia; Paraesthesia; Minerals related deficiency disorders: nutritional anemia; goiter; zinc, potassium and magnesium deficiency disorders.

Suggested Readings:

1. Boyle, M.A. 2016. Personal Nutrition. Wadsworth Cengage Learning, Belmont, CA, USA.
2. Gropper, S.S., and J.L. Smith. 2013. Advanced Nutrition and Human Metabolism. 6th ed. Cengage Learning, Belmont, CA, USA.
3. Rolfes, S.R., K. Pinna and E. Whitney. 2015. Understanding Normal and Clinical Nutrition, 10th ed. Thomson and Wadsworth Publishers, USA.
4. WHO. 2004. Vitamin and Mineral Requirements in Human Nutrition. World Health Organization, Geneva, Switzerland.

Semester-VIII

Sr. No	Course Code	Course Name	Credit Hours
1	HND-602	Internship/House Job	5(0-10)
2	HND-604	Nutritional Immunology	3(3-0)

3	HND-606	Food Service Management	3(3-0)
4	HND-608	Nutrition Policies and Programs	3(3-0)

HND-604 Nutritional Immunology 3(3-0)

Learning Outcomes:

1. To understand relationship between nutrition and immunity
2. To evaluate, summarize and apply current research in the field of nutrition
3. To determine and assess factors impacting nutritional and immunological status
4. To grasp knowledge about the interactions among the nutrients and immune responses

Theory:

Nutritional immunology: overview, principles; Immune system; psychoneuroimmunology; Effective detoxification protocols: anti-inflammatory, immune boosting, alkalinizing, detoxification; Mechanisms of immune dysfunction in autoimmune conditions and cancer; Gerson therapy; Harmful effects of vaccinations and antibiotics and nutritional support; Supplementation requirements to treat immune dysfunctions, colds, flus, pandemics. Opportunistic infections. Genetic and immunity; Functional foods and Immunology; Immune boosters; Food Allergies; Cognitive function of nutrients; Immunization and its impacts.

Suggested Readings:

1. Calder, P.C., C.J. Field and H.S. Gill. 2002. Nutrition and Immune Function. CABI Publishing, New York, USA.
2. Gershwin, M.E., J.B. German and C.L. Keen. 2000. Nutrition and Immunology Principles and Practice. Humana Press, New York, USA.
3. Gershwin. ME., P. Nestel and C.L. Keen.2004. Handbook of Nutrition and Immunology. Humana Press, New York, USA.
4. Schat, K.A., B. Kaspers and P. Kaiser. 2014. Avian Immunology, 2nd ed. Academic Press, San Diego, CA, USA.

HND-606 Food Service Management 3(3-0)

Learning Outcomes:

1. To describe the key milestones of food service industry
2. To relate the current trends in food service operations and evolution through the business life cycle
3. To explain the art underlying menu development and method for recipe

standardization

4. To understand the planning considerations vital for creating a successful food service operation

Theory:

Food service management: introduction; position, manage and leverage a successful food service operation; The compilation of management practices: tools and techniques, essential approaches. Food service industry: history, segmentation and managerial implication, menu planning and development, recipe standardization, costing and analysis, food supply chain management, distribution channels, supplier selection, purchasing, equipment selection, forecasting, storage management, product inventory management, human resource management, customer services, marketing. Food safety: GMP, HACCP.

Suggested Readings:

1. Barron, C.W., T. Power and D.R. Reynolds. 2012. Introduction to Management in the Hospitality Industry, 10th ed. John Wiley Sons Inc., Hoboken, New Jersey, USA.
2. Reynolds, D.R. 2014. Foodservice Management Fundamentals. John Wiley Sons Inc., Hoboken, New Jersey, USA.
3. Reynolds, D.R. and K.W. McClusky. 2014. Study Guide to Accompany Foodservice Management Fundamentals. John Wiley Sons Inc., Hoboken, New Jersey, USA.

HND-608 Nutrition Policies and Programs 3(3-0)

Learning Outcomes:

1. To familiarize with global and local nutrition policies and programs in the domain of public health nutrition
2. To prevent and control specific micronutrient deficiencies through diet based approaches among the vulnerable
3. To promote appropriate diets and healthy lifestyles and access, analyze and monitor nutrition situations

Theory:

History and importance of nutrition intervention planning; World declaration on nutrition; Nutrition development partners; Policy guidelines; Community nutrition programs: national and international, supplementary feeding programs; Food fortification, supplementation and diet diversification; School feeding programs: interventions and impacts; Improving household food security; Protecting consumers through improved food quality and safety; Preventing and managing infectious diseases; Promoting breast feeding; Caring for socio-economically deprived and vulnerable;

Preventing and controlling specific micronutrient deficiencies; Promoting appropriate diets and healthy lifestyle; Improving health care; Five years plan for Pakistan (Nutrition); Nutrition intervention: counselling for change; SUN movement; One health concept; National nutrition programs: food & nutrition program, Tawana Pakistan, school health program; Developing effective food and *nutrition policies* and programs.

Suggested Readings:

1. Edelstein, S. 2011. Nutrition in Public Health: A Handbook for Developing Programs and Services, 3rd ed. Jones & Bartlett Learning, Sudbury, M.A, USA.
2. IFPRI. 2016. Taking Actions: Progress and Challenges in Implementing Nutrition Policies and Programs. International Food Policy Research Institute, Washington, DC, USA.
3. Nnakwe, N.E. 2009. Community Nutrition: Planning Health Promotion and Disease Prevention. Jones and Bartlett Learning International, London, UK.
4. Semba, R.D. and M.W. Bloem. 2008. Nutrition and Health in Developing Countries, 2nd ed. Humana Press, New York, USA.
5. Spark, A. 2007. Nutrition in Public Health: Principles, Policies and Practice. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.

- iochemical systems and processes for production of products with commercial value.
- Enable students to use microorganisms in the production of pharmaceuticals, foods, enzymes and organic acids that have direct economic value.

Course Outline:

- Introduction to industrial biochemistry
- Types of industries
- Introduction to fermentation and its applications.
- Selection of industrially important organism for food, pharmaceutical, fertilizer, textile, tanneries, paper and other related industries
- Brief introduction to microbial metabolites.
- Production of enzymes, antibiotics, acetic acid and ethanol by microbial fermentation.
- Manipulation of fermentation for enhanced production of targeted metabolite.
- Plant extraction and purification of extracted components.
- Manufacturing of glucose from rice, corn, potato and wheat for their industrial applications
- Quality assurance and value addition

Practical:

- Determination of ethanol percentage in the fermentation broth
- Estimation of total proteins in the given sample

- Purification of proteins by column chromatography
- Determination of citric acid by titration method in the fermentation medium
- Extraction of plant seeds oil by using Soxhelt apparatus
- Determination of acid value of oil extracted from plant seeds
- Determination of Iodine value of Fat/oil
- Separation of phospholipids by Thin Layer Chromatography
- Preservation of food by UV-radiation /chemical method
- Estimation of glucose in the given sample

ANNEXURE 2: SURVEY OF GRADUATING STUDENTS

As the Department of Food and Nutritional Sciences and Department of Biochemistry and Biotechnology initiated in year 2021, No students have graduated and thus survey of Graduating students is not applicable in this case

ANNEXURE 3: ALUMNI SURVEY

As the Department of Food and Nutritional Sciences and Department of Biochemistry and Biotechnology initiated in year 2021, No students have graduated and thus survey of Alumni Survey is not applicable in this case.

ANNEXURE 4: Employer Survey

As the Department of Food and Nutritional Sciences and Department of Biochemistry and Biotechnology initiated in year 2021, thus survey of Employer Survey is not applicable in this case.

ANNEXURE 5: FACULTY RESUME

Name	**Shakila Anwar**		
Personal	**Address: Shah Faiz Colony Street no 03, Burewala** Contact No. **+923039894732** Email: **Shakila.anwar@baraniinstitute.edu.pk**		
Qualification	**M.Phil (HND)**		
Experience	**Date**	**Title**	**Institution**
	From: 06-10-2021 To: Till Date	**Permanent Lecturer**	PMAS-Barani Institute of Sciences, Burewala (Pakistan)
	From: 10-04-2019 To: 05-08- 2021	Departm ent Incharge	King College of Health Science, Sahiwal
	From:04-12-2017 To: 31-01- 2019	Consultant Nutritionist	Nutrico, Pakistan Private Limited,

			Multan
Honor and Awards	N/A		
Memberships			
Graduate Students Postdocs Undergraduate Students Honor Students	Years	Degree	Name
	N/A		
Service Activity	N/A		
Brief Statement of Research Interest	**N/A**		
Publications	Abstract published on "Assessment of Nutritional Status among School going Children through Their Dietary Intake" at 4th International Conference Food and Nutritional Security in Changing Climate (2019).		
Research Grants And Contracts	N/A		
Other Research Or Creative Accomplishments	N/A		
Selected Professional Presentations	N/A		

Name	**Sehar Javed**
Personal Information	Father's Name: Javed Akhtar Email: diyajaved786@gmail.com Mobile: 03326558486 Date of Birth: 8-3-1990 Qualification: MPhil Address: Model Town 437 burewala

Experience

2 years

Title: Lecturer
Institution: Sir Syed College Chichawatni
Job Description: Botany and biology subject lecturer

3 years

Title: Lecturer
Institution: University of Education
Job Description: lecturer (botany + basic agriculture)

Honor and Awards	
	N/A
Memberships	
	N/A
Honour Students	
	N/A
Service Activity	
	N/A
Brief Statement of Research Interest	
	N/A
Publications	
Research Grants and Contracts	
	N/A
Other Research or Creative Accomplishments	
	N/A
Selected Professional Presentations	
	N/A

Name	**Muhammad Qamar Fareed**		
Personal	**Address: Anwar town street No 1**, **Burewala, Pakistan** Contact No.**03347194044** Email: **qamarfareed49@gmail.com**		
Qualification	**M.phil Statistics**		
Experience	**Date**	**Title**	**Institution**
	April, 2014-Present	**Permanent Lecturer**	PMAS-Barani Institute of Sciences, Burewala (Pakistan)
	October, 2012-May, 2013	**Visiting Lecturer**	Govt. Commerce College, Burewala (Pakistan)

Honor and Awards	**Part of different societies to organize events at NCB&E- National College of Business Administration and Economics.**		
Memberships			
Graduate Students Postdocs Undergraduate Students Honor Students	Years	Degree	Name
	N/A		
Service Activity	N/A		
Brief Statement of Research Interest	**Forecasting for Cultivated Area and Production of Sesame in Pakistan using ARIMA Model**		
Publications	N/A		
Research Grants And Contracts	N/A		
Other Research Or Creative Accomplishments	N/A		
Selected Professional Presentations	N/A		

Name	**MUHAMMAD SAJID S/O GULZAR AHMAD**		
Personal	Address: HOUSE NO. 562, STREET NO. 20, HABIB COLONY, TEHSIL BUREWALA, DISTRICT VEHARI. Contact No. 0332-7105641 Email: BZUSAJID@GMAIL.COM		
Qualification	MS MATHEMATICS		
Experience	**Date**	**Title**	**Institution**
	01-JUL-2017 to 31-DEC-2018	Lecturer of Mathematics	HCCS Educational System, Islamabad
Honor and Awards	Awarded Laptop by Prime Minster Laptop Scheme.		
Memberships	Event Organizer in University.		
Graduate Students Postdocs Undergraduate Students Honor Students	Years	Degree	Name
	N/A		
Service Activity	N/A		
Brief Statement of Research Interest	N/A		
Publications	N/A		

Research Grants And Contracts	N/A
Other Research Or Creative Accomplishments	N/A
Selected Professional Presentations	N/A

Name	**Muhammad Ahmad**		
Personal	Address: Chah boote wala P/O boonga machi tehsil Minchiabad Contact No.03428535092 Email: ahmadjammo555@gmail.com		
Qualification	MSCS		
Experience	**Date**	**Title**	**Institution**
	24/03/2015 To 10/01/2016	Web Developer	EIGLOU SOFTWARE HOUSE
	01/02/2016 To 30/09/2017	Team Lead	TECHNOJIN SOLUTIONS SOFTWARE HOUSE
	09/10/2017 To continue	Lecturer	BIS Burewala
Honor and Awards	On Spot programming competition Winner 2014 COMSATS University		
Memberships	Stack Overflow, Quera		
Graduate Students Postdocs Undergraduate Students Honor Students	Years	Degree	Name
	N/A		
Service Activity	Lecturer and Final Year Project Incharge		
Brief Statement of Research Interest	Keen to work on different DBMSs , SQL injection and query Optimization		
Publications	N/A		
Research Grants And Contracts	N/A		
Other Research Or Creative Accomplishments	N/A		
Selected Professional Presentations	N/A		

Name	**Wasim Sarwar**		
Personal	Address: chak no 259 E.B lot no 2 tehsil burewala district Vehari Contact No. 0321-6997258 Email: wasimsarwar259@gmail.com		
Qualification	M.Phil history		
Experience	**Date**	**Title**	**Institution**
	01-10-2013	31-05-2014	Govt College chichawatni
	01-10-2014	10-04-2015	
Honor and Awards			
Memberships			
Graduate Students Postdocs Undergraduate Students Honor Students	Years	Degree	Name
Service Activity	Lecturer Pakistan studies		
Brief Statement of Research Interest			
Publications	In queue		
Research Grants And Contracts	N/A		
Other Research Or Creative Accomplishments	N/A		
Selected Professional Presentations	N/A		

ANNEXURE 6: FACULTY COURSE REVIEW REPORT

Performa2

FacultyCourse Review Report
(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Biochemistry		Faculty:	Life Sciences	
Course Code:	STAT-301	Title:	Statistics & Biometery		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(3-0)	Level:	BCH. 2nd	Prerequisites:	None.
Nameof Course Instructor:	Ghulam Fareed	No.of Students Contact Hours	Lectures 16	Other(PleaseState)	
			Seminars	None.	
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignments + Quizes : 20%. Mid term : 30%. Final term : 50%.			

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	17	35%.	41%.	17.6%.	5%.					
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofthis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Biochemistry		Faculty:	Life Sciences	
Course Code:	CS-301	Title:	Introduction to Computing		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(2-2)	Level:	BCH. 2nd	Prerequisites:	None
Nameof Course Instructor:	Mohammad Ahmad	No.of Students Contact Hours	Lectures 32	Other(PleaseState)	
			Seminars	None	
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignments + Quizzes : 20%. Mid term : 30%. Final term : 50%.			

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	17	17.6%	52.9%	29.4%						
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Biochemistry	Faculty:	Life Sciences		
Course Code:	BCH-307	Title:	Introduction to Bioenergetics		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☒	Summer ☐
CreditValue:	2(2-0)	Level:	BCH 2nd	Prerequisites:	None
Nameof Course Instructor:	Sabar Javed	No.of Students Contact Hours	Lectures 16	Other(PleaseState)	
			Seminars	None	
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignments + Quizzes : 20%. Mid term : 30%. Final term : 50%.			

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	17	35%	41.17%	23.5%						
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoll HeadofDepartmentofhis/hernominee(Dept./Quality Officer) together with copiesof the Course Syllabus outline

Department:	Biochemistry		Faculty:	Life Science I	
Course Code:	BCH-304	Title:	Inorganic Chemistry		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(2-2)	Level:	BCH - 2nd	Prerequisites:	None
Nameof Course Instructor:	Hina Anjum	No.of Students Contact Hours	Lectures 32	Other(PleaseState)	
			Seminars	None	
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingetc)		Assignments + Quizes : 20%. Mid term : 30%. Final term : 50%.			

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	17	35%.	47%.	17.6%.						
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoheadof Departmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Biochemistry		Faculty:	Life Sciences	
Course Code:	BCH-306	Title:	General Microbiology		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(2-1)	Level:	BCH 2nd	Prerequisites:	None.
Nameof Course Instructor:	Mohsin Abbas	No.of Students Contact Hours	Lectures 30	Other(PleaseState)	
			Seminars	None	
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingetc)		Assignments + Quizes : 20% Mid term : 30% Final term : 50%			

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	17	11.7%	11.7%	41%	35%					
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (HND)		Faculty:	Life Sciences	
Course Code:	HND-304	Title:	Human Physiology		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☐	Summer ☐
CreditValue:	3(2-2)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	Dr Aasia Khalid	No.of Students Contact Hours	Lectures 30	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5./. quizzes = 5./. Presentation = 10./.		Mid = 30./. Final = 50./.	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	25	16./.	12./.	32./.	28/.		12/.			
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoheadof Departmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Biochemistry		Faculty:	Life Sciences	
Course Code:	BCH-305	Title:	Molecular Biology		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(2-2)	Level:	BS 2nd	Prerequisites:	None
Nameof Course Instructor:	Farah Tanveer	No.of Students Contact Hours	Lectures 32	Other(PleaseState)	
			Seminars	(2) Cancer awareness + 3D Model Competition	
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignments + Quizes 20% Mid term 30% Final term 50%			

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	17	29.4%	29.41%	41.1%						
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoheadof Departmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (FNS)		Faculty:	life Sciences.	
Course Code:	HND-302	Title:	Human Anatomy		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☐	Summer ☐
CreditValue:	3 (2-2)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	Dr. Ambel Tariq	No.of Students Contact Hours	Lectures 29	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5.1. Quizes = 5.1. Presentation = 10.1.		mid = 30/. Final = 50/.	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	25	16./.	28./.	44./.	4./		4/.			
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

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FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoheadofdepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutrition Sciences (FNS)		Faculty:	Life Sciences	
Course Code:	Stat - 302	Title:	Statistics and Biometry		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(2-2)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	Mr. Ganoa Faseed	No.of Students Contact Hours	Lectures 28	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5% Quizzes = 5% Presentation = 10%		Mid = 30% Final = 50%	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	25	36%	16%	32%			16%			
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissionto HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (HND)	Faculty:	Life Sciences		
Course Code:	HND)-303	Title:	Food Processing and Preservation.		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3 (2-2)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	M.S Nazish Iqbal	No.of Students Contact Hours	Lectures 29	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment 5./. Viozed 5./. Dissertation 10./.		mid = 30 /. Final = 50./.	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	12	83./.	16./.							
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutrition Science (HND)		Faculty:	Life Sciences	
Course Code:	BCH - 310	Title:	Introductory Biochemistry		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3 (2-2)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	Ms Mumzza Shaheen	No.of Students Contact Hours	Lectures 28	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5.1. Quizzes = 5.1. Presentation = 10.1.		Mid = 30 1. Final = 50 1.	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	25	56.1.	20.1.	12.1.			12.1.			
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoheadofdepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutrition	Faculty:	Life Sciences		
Course Code:	SSH-301	Title:	Pakistan studies		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	2(2-0)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	Mr. Waseem Sarwar	No.of Students Contact Hours	Lectures 29	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)	Assignment = 5./. Quizzes = 5./. Presentation = 10./.		mid = 30/ Final = 50./.		

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	12	66./.	33./.							
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (FNS)		Faculty:	Life Sciences	
Course Code:	Math-301	Title:	Mathematics-I		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(3-0)	Level:	BS	Prerequisites:	—
Nameof Course Instructor:	Mr. Muhammad Sajid Gadezai	No.of Students Contact Hours	Lectures 29	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5% Quizzes = 5% Resolution = 10%		mid = 30% final = 50%	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	12	41%	50%		8%					
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoo HeadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (HND)	Faculty:	Life Sciences		
Course Code:	Soc - 301	Title:	Introduction of Sociology		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	2(2-0)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	MS. Huma Sehrish	No.of Students Contact Hours	Lectures 29	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsete)		Assignment = 5.1. Quizzes = 5.1. Presentation = 10.1.		mid = 30.1. Final = 50.1.	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	12	66.1.	33.1.	-	-	-	-		-	12
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoll eadofDepartmentofhis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (HND)		Faculty:	Life Sciences	
Course Code:	HND-306	Title:	Micro and Macronutrients Human Nutrition		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(3-0)	Level:	HND-2	Prerequisites:	—
Nameof Course Instructor:	Shakila Anwar	No.of Students Contact Hours	Lectures 25	Other(PleaseState)	
			Seminars ?		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5.% Quizzes = 5.% Presentation = 10.%		mid = 30.% final = 50.%	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	25	20.%	41.%	8.%	24.%					
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										

Performa2

FacultyCourse Review Report

(Tobefilledbyeachteacheratthetime ofCourseCompletion)

Forcompletionbythecourseinstructorandtransmissiontoheadof Departmentofthis/hernominee(Dept.Quality Officer) together with copiesof the Course Syllabus outline

Department:	Food and Nutritional Sciences (FNS)		Faculty:	Life Sciences	
Course Code:	HND 301	Title:	Fundamentals of Human nutrition		
Session:	Spring 2022	Semester:	Autumn ☐	Spring ☑	Summer ☐
CreditValue:	3(3-0)	Level:	BS	Prerequisites:	
Nameof Course Instructor:	Ms. Shakila Anwar	No.of Students Contact Hours	Lectures 29	Other(PleaseState)	
			Seminars		
AssessmentMethods: give precise details (no & length ofassignments,exams,weightingsetc)		Assignment = 5.1. Quizzes = 5.1. Presentation = 10.1.		mid = 30.1. Final = 50.1.	

DistributionofGrade/MarksandotherOutcomes:(adoptthegradingsystemasrequired)

Undergraduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	F	No Grade	Withdrawal	Total
No.ofStudents	12	25.1.	50.1.	16.1.						
Post-Graduate	Originally Registered	%Grade A	%Grade B	%Grade C	D	E	NoGrade		Withdrawal	Total
No.ofStudents										