THE UNIVERSITY OF THE WEST INDIES

REVIEW OF
HUMAN ECOLOGY PROGRAMMES

ST. AUGUSTINE CAMPUS
TRINIDAD AND TOBAGO

QUALITY ASSURANCE UNIT
OFFICE OF THE BOARD FOR UNDERGRADUATE STUDIES
2002
# TABLE OF CONTENTS

Table of Contents ................................................................. ii

**Review of the Human Ecology Programmes**

- Background ................................................................. 1
- Introduction ................................................................. 2
- Preamble ................................................................. 3
- Mission statements .......................................................... 4
- Aim and objectives .......................................................... 5
- Curriculum ................................................................. 5

**Report of the Review Team**

- Meeting regional needs .................................................. 9
- Promotion of relevant research and education methodologies ..... 9
- Curriculum ................................................................. 10
- Teaching and learning approaches .......................................... 12
- Student profile, assessment and learning outcomes .................. 13
- Resources ................................................................. 14
- Quality assurance .......................................................... 15
- Dietetic internship .......................................................... 16
- Summary of main recommendations ........................................ 17
REVIEW OF THE HUMAN ECOLOGY PROGRAMMES

Department of Agricultural Economics and Extension
Faculty of Science and Agriculture
The University of the West Indies
St Augustine Campus

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1. BACKGROUND

The Chancellor’s Commission on Governance\(^1\) mandated the development of a full system of quality audit and quality assurance at the University of the West Indies (UWI). This decision reflected trends in the higher education sector worldwide. The Commission’s report led to the establishment of the Board for Undergraduate Studies (BUS), which began its work in August 1996. One of the Board’s main duties is the development and implementation of the system of quality audit and assurance. The Office of the Board for Undergraduate Studies (OBUS) has responsibility for carrying out the policies and directives of BUS. A Quality Assurance Unit (QAU) was established within OBUS in 2001 and has a particular focus on quality assurance issues.

The UWI system for quality assurance has two primary aims. One is to maintain and enhance the quality of the learning experience of UWI students and to ensure the maintenance of appropriate output standards. The other is to provide assurance to the stakeholders, i.e., the students, their parents, the employers, the regional governments and the region’s societies, of the continuing high quality and standards of the work of UWI\(^2\). Within the system the QAU undertakes a cycle of reviews of the different disciplines; these are quite separate from the assessment of individual members of staff. In contrast to individual assessments, the discipline-based quality assurance reviews have a formative and developmental intent. In the case of this review a request came from the academic staff within the Human Ecology programmes, with the intent that the review contribute to their enhancement as well as the accreditation of the Diploma in Institutional and Community Nutrition and Dietetics (DICND).

Each review is preceded by the submission of a report on a Self-Assessment exercise undertaken by the members of staff in the programme. A Review Team is appointed to reflect varied representation and may include a member of staff teaching the same discipline on another campus and independent members, one person external to UWI with professional expertise in the discipline from within the Caribbean and senior academics from outside the region. The composition of the Review Team depends on the nature of the discipline to be reviewed, that is, whether it is a single campus or cross-campus discipline, a professional or academic discipline, and so on. The Review Team receives the Self-Assessment report along with other documentation, makes a visit to the campus, during which it meets a range of relevant persons and examines other written materials, and then submits its report.


The sections of this report which present the Preamble, the Mission Statements, the Aim and Objectives of the Human Ecology Programmes and the Curriculum (Sections 3, 3.1, 3.2, 3.3) have been taken or slightly adapted from the Self-Assessment Report prepared by the Human Ecology Unit.

2. INTRODUCTION

The Review Team for the review of the Human Ecology Programmes consisted of:

Dr Penny Ralston
Dean, College of Human Sciences
Florida State University, USA

Dr Joan Fischer
Professor, Department of Foods and Nutrition
The University of Georgia, USA

Dr Pauline Samuda
Nutrition Educator
Caribbean Food and Nutrition Institute
Mona, UWI, Jamaica

As noted above, the academic staff of the Human Ecology Programmes initiated the review. Mrs Sandra Gift, Senior Programme Officer, UWI Quality Assurance Unit (QAU) and Dr Peter Whiteley, Director, QAU, supported the review, guided the Review Team during its visit and developed the draft report from the materials provided by the team. Prior to arrival the Review Team examined the Self-Assessment report that was sent by the Human Ecology Unit. During the visit the Review Team reviewed other documents and data.

The Review Team held meetings with:
   i. a group of undergraduate students
   ii. a group of B.Sc. graduates
   iii. a group of Interns
   iv. a group of graduates of the Internship Programmes
   v. the Principal, St Augustine campus, UWI – Dr Bhoendradatt Tewarie
   vi. the Dean, Faculty of Science and Agriculture –
   vii. Professor Charles Mc David
   viii. the Head, Department of Agricultural Economics and Extension – Dr Ranjit Singh
   ix. members of staff of the Human Ecology Unit
   x. Librarian, General References and Loans Division – Ms Elmelinda Lara
   xi. representatives of the Ministry of Education:
       Ms Sharon Mangroo – Director of Operations
       Ms Joyce Debideen – Curriculum Officer
       Ms Melca Alexander – Curriculum Officer
       Ms Erlene Benjamin – Curriculum Coordinator, Planning and Research
   xii. a representative of the Nutrition and Dietetics Department, Eric Williams Medical Sciences Complex (EWMSC) – Ms Yvonne Batson
xiii. professional stakeholders:
- Chief Nutritionist, Ministry of Health, Ms Cheryl Nunes
- two representatives of Nutrition and Dietetics Board, Trinidad and Tobago Association of Nutritionists and Dieticians (TTANDi) – Ms Loretta Lopez and Ms Doreen West
- a representative of Caribbean Association of Nutritionists and Dieticians (CANDi) – Ms Yvonne Batson
- a representative of Caribbean Association of Home Economists – Mrs Violet Davis-Maurice.

The Review Team also toured the following facilities:

i. The laboratories of the Human Ecology Programmes.
ii. The kitchen at the Eric Williams Medical Sciences Complex, where the interns are trained.
iii. The UWI Main Library.

3 PREAMBLE

The B.Sc. Human Ecology Programme commenced in September 1994 and the Dietetics Internship programme in September 1999. The introduction of the programmes was a response to concerns about the poor health profile of the peoples of the Caribbean and the inadequate numbers and levels of practicing professionals in dietetics and nutrition. By 2002 a review was considered timely to ensure the initial goals and objectives in establishing the programmes were still relevant and being achieved. Over the duration of the programmes a number of challenges had been faced and the programmes were at that stage where it was prudent that they be reviewed and revised to ensure that:

- The quality of provision and standards of outcomes were maintained
- There was appropriate readiness for taking opportunities for strategic alliances with other Universities and facilities with established programmes
- The programmes were suitable for application for professional accreditation.

Related to these was the need to revisit the goals/objectives of the programmes and plan for their continued development. In particular, priority needed to be given to the accreditation of the Internship programme, with pending legislation for professional registration prior to practice or employment.

During the 2000/2001 academic year, OBUS completed a Quality Assurance Review of the Department of Agricultural Economics and Extension. However, the Internship programme was not included in the review and the review was not sufficiently comprehensive with respect to the discipline of Human Ecology.
3.1 **Mission Statements**

*The University of the West Indies – St Augustine*

“The St Augustine campus of the University of the West Indies is committed to the development of Caribbean countries. At all times, it will seek to contribute to that development by producing graduates and research of high quality, relevance and usefulness in sufficient quantity and at minimum cost.

The St Augustine campus, by the conduct of its own staff and students as well as by the content of its academic programmes, will strive towards the inculcation of social values of shared communal responsibility, social justice, and respect and tolerance for differences in beliefs, philosophy, ethnicity and culture.

The St Augustine campus aims at being an intellectual bridge to the wider Caribbean region and the rest of the world, assisting its member countries to benefit from the rapidly growing and constantly changing stock of ideas, knowledge, and expertise and itself contributing to that stock in ways that enhance the international standing of the Caribbean.”

*Faculty of Science and Agriculture*

The Self-Assessment report noted that the Strategic Plan, 1999-2004, of the Faculty of Science and Agriculture stated that the Faculty’s mission was “to establish and maintain itself as an internationally recognized centre of excellence for teaching, research, technology innovation and outreach in agriculture and science, geared primarily towards providing the human resource and development needs of the Caribbean region.”

*Department of Agricultural Economics and Extension*

The Human Ecology Programmes are located within the Department of Agricultural Economics and Extension the mission of which is to promote:

- The development of regional and international tropical agriculture;
- Regional food security; and
- An improvement in the environmental and nutritional status of Caribbean peoples through the provision of high quality teaching, research and outreach through collaboration with regional agricultural and related sectors, to meet critical and changing needs in the socio-economic and human ecological aspects of development.

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3 Human Ecology Self-Assessment Report, 2002 (p 7)
4 Ibid (p 7)
3.2 **Aim and Objectives of the Human Ecology Programmes**

The aim of the Human Ecology Programmes is:

*To lead educational and professional development in the disciplines of **Home Economics** and **Nutrition and Dietetics** at the undergraduate, postgraduate, community, national and regional levels.*

The objectives are to:

1. Provide adequate numbers of appropriately trained professionals in a cost-effective manner to meet the needs of the region in Home Economics and Nutrition and Dietetics, and related fields.
2. Promote relevant research and education methodologies.
3. Provide opportunities for appropriate Continuing Professional Education (CPE) in Home Economics and Nutrition and Dietetics, as well as for life-long learning.
4. Continuously update its offerings to ensure relevance and dynamism to meet the changing socio-economic needs of the region.

3.3 **Curriculum**

**The Degree of B.Sc., Human Ecology**

The Degree of B.Sc. in Human Ecology is awarded on the completion of six to ten semesters full-time/part-time study in one or both of the two options: General Home Economics and Nutrition and Dietetics.

A common Level 1 core requires the candidate to complete 9 credits of University Foundation Courses and 71 credits in introductory and supporting courses. In the professional courses the candidate is required to complete 24 credits in **Nutrition and Dietetics** or 30 credits in **Home Economics**. Additionally each candidate has the opportunity to enhance the degree by reading for 6 credits of choice (elective courses) as approved by the Faculty Board.

**Major/Minor Degree**

With the introduction of majors and minors in the Faculty in September 2001, students were allowed to:

(i) Take both the Home Economics and Nutrition and Dietetics options and
(ii) Register for a minor in any discipline, subject to the required pre-requisites.
The Diploma in Institutional and Community Dietetics and Nutrition
(Internship)

The Diploma in Institutional and Community Dietetics and Nutrition is designed to provide the Nutrition and Dietetics (or equivalent) graduate with practical experience at both the institutional and public health levels (in both the private and public sectors) and is scheduled to be completed over one calendar year (3 semesters) on a full-time basis.

The Diploma is awarded on the successful completion of 6 courses (3 theory; 3 practical) for a total of 36 credits.

Development of Programmes

The curriculum for the B.Sc. degree in Human Ecology was developed initially by the two professional associations – the Trinidad and Tobago Association of Nutritionists and Dietitians (TTANDi) and the Trinidad and Tobago Home Economists Association (TTHEA), in collaboration with the UWI Faculty of Agriculture (at that time) and the CFNI - St Augustine campus.

Several changes have been made since then in the sequencing and addition/substitution of courses, on suggestions/requests from students and lecturers, as well as interaction with other departments and faculties. Consultation with sister universities (FSU and UGA) through reciprocal visits of Deans and Faculty members, has assured that the curriculum was kept on sound footing and provided the impetus for making some of these changes.

The selection and sequencing of courses for both the undergraduate and internship programmes were intended to ensure that the fundamental science subjects and other foundation courses in the discipline were covered first, followed by the applied areas. The Internship was so designed to develop practical capability, based on core competencies of the discipline.

Many students entering the programmes who have completed Advanced, ‘A’, level examinations and tertiary level programmes have indicated that some of the Level I courses fail to provide adequate intellectual challenge.

Since the inception of the programmes, the range and content of courses provided have been increased and revised to meet the needs identified by the major employers/stakeholders and for advanced study. However, a formal framework for the review of the programmes is not in place and one outcome of the quality assurance review was expected to be the creation of such a framework. Further, although the policy of The UWI requires lecturers to develop and distribute to students information regarding courses (Aims, Objectives, Contents, etc.) some had failed to fulfill this obligation.

Up to the 2001-2002 academic year the programmes provided for generalist training. However, commencing in the academic year 2002-2003 students are being offered the opportunity for specializing in “Textiles and Apparel”. Additionally, increased opportunities need to be explored for enhanced personal and professional development, as well as relevant research.
Meeting the Challenges in the Delivery of the Curriculum

(a) Textiles and Apparel

At one point the curriculum was considered deficient in the Textiles and Apparel component, in particular for teaching at the high school level. The intervention of the Permanent Secretary, Ministry of Education, at the request of the Human Ecology staff (2001), resulted in curriculum changes in Textiles and Apparel to meet the expressed need for appropriate preparation of secondary school teachers of Home Economics.

Effective 2002-2003, in lieu of course **AH 24A: Introduction to Apparel and Textiles** two separate courses, **AH 24C: Introduction to Textiles and AH 24D: Social and Psychological Aspects of Apparel** are being offered. Two advanced courses in **Apparel Design and Construction, and Textiles** have also been added. Since the Ministry of Education (from the academic year 2001-2002) required graduates wishing to teach to be proficient in **Flat Pattern Development**, the course was delivered for the first time and time-tabled on Saturday mornings.

These changes now require students to complete an additional 9 credits, increasing the total requirement to 115 credits in the Home Economics option.

(b) Housing and the Environment

As of the academic year 2001-2002 the course **Housing and the Environment** has been delivered by the Faculty of Engineering in the Department of Civil Engineering. This arrangement is satisfactory to the Department. Prior to this a part-time lecturer delivered the course.

(c) Courses not Delivered/Courses Substituted

To date, two courses have not been delivered because of lack of teaching resources. These are (i) **AH 35B: Child Development** and (ii) **AH 36A: Equipment Principles**.

Students have substituted an approved equivalent course in the Faculty of Humanities (Education) or the Faculty of Social Sciences (Behavioural Science), and **AH 23A: Foodservice Systems Management (Equipment, Layout and Design)**, respectively.

(d) Overlap in Course Syllabi

Food Science

Originally two courses **Principles of Food Science (3)** and **Principles of Food Chemistry (3)** were delivered by the Department of Food Production. On the basis of students’ reports, the observation of the Dean and inter-departmental discussion with all lecturers concerned, the overlap was eventually resolved by a new course offering: **AH 10C: Food Science** delivered in the second year of the programme. This change was made in the academic year 2001-2002.
Food Service Systems Management (FSSM)

Some difficulty has continued as regards the inter-relationship of the three courses in this component of the programme; in particular, overlaps between: **AH 33A: FSSM (Quantity Foods)** and **AH 23A: FSSM (Organisation and Management)/AH 23B: FSSM(Equipment, Layout and Design)** and periodic changes in the syllabus have caused difficulties with the intended complementariness as well as independence of these courses.

**Delivery time**

Some lecturers have complained of being unable to complete the syllabus within the specified time.

Tutorials were introduced in one Nutrition course in 2001-2002, and this contributed to the resolution of the problem of timetable clashes with core courses in other faculties.
4. REPORT OF THE REVIEW TEAM

4.1 Meeting Regional Needs

As fairly new programmes, the Human Ecology Programmes were developed to meet the needs of the region in both the broader field of home economics and also the specialization in nutrition and dietetics. This has been one of the strengths of the programmes in that the structure has, for the most part, provided this broad education. However, it is perceived by some of the students and professionals that the programmes are serving the needs of Trinidad and Tobago more than the needs of the entire region.

The Review Team recommends that the programmes explore ways to assess and meet the needs of students from the entire region in terms of:

- Different job expectations
- Different government policies
- Different focuses
- Needs in the public sector in health and education, teaching and educational settings, the private sector, industry and private practice.

Strategies that might be used to assist the programmes in meeting the broader needs of the region include:

- Marketing and advocacy by developing a promotion strategy within the region, within the university and within the department
- Developing linkages with private enterprise and industry, regional and international institutions, departments and faculties within UWI, such as the Faculty of Medical Sciences, business and agriculture
- Communicating, within UWI and the Department, the value of the programmes, the types of employment, the links between human ecology and agriculture and the links between food production and food consumption
- Emphasizing the science of foods and nutrition.

4.2 Promotion of Relevant Research and Education Methodologies

The Human Ecology Programmes have fostered research within the curriculum by requiring students to complete a coursework research project in the third year. The programme is commended for inclusion of the research project and also the teaching of research skills as a part of the curriculum. This is a promising area and should be strengthened as the programme develops. One way to strengthen this aspect of the curriculum is by having academic staff use research as a teaching strategy. Outcomes research is an excellent area of opportunity. Engaging the students in research facilitates the process and, in turn, the faculty and students are generating new knowledge.

Another strategy to strengthen research would be to develop stronger links with colleagues in agriculture and in the medical faculty. Links with public health could also be explored to develop some commonalities in a research agenda.
In speaking with members of the academic staff, we could not discern whether they felt that research was a mandate for their job, yet it is clear that the expectations for research are central to the mission of the university. It is important for the Human Ecology Programmes to develop a strong research thrust, in addition to the teaching curricula, if they are to have long-term viability within the university. The Review Team recommends that the Dean, the Department Head and academic staff in the programme discuss these issues and develop a coherent plan of action.

4.3 Curricular

The Human Ecology Programmes have developed appropriate curricula in both the Nutrition/Dietetics Option and the Home Economics Option. In particular, the Nutrition/Dietetics Option has courses that are well developed and would be consistently compared with similar programmes in the U.S. and Canada. In addition, the Dietetic Internship has developed over the years to be on par with internships in these countries. The graduates of the Nutrition/Dietetics Option and Internship are perceived to be well prepared and competent.

The academic staff has made considerable effort to design a curriculum that provides a broad based education in foods and food science, nutrition science, and in management skills needed to direct food and nutritional sciences in a wide variety of settings. Courses not only provide discipline-specific content in foods and nutrition but also provide content designed to develop general skills in communication, problem solving, critical thinking and leadership that can be used throughout a professional career.

The sequence of courses adequately provides the necessary background for each course and students progress from basic to advanced study in each area during the completion of the programme. Courses provide introductory information on nutrition and foods in Year 1, followed by advanced courses in Years 2 and 3. Supporting sciences such as Biochemistry, Microbiology and Anatomy/Physiology are taken in Years 1 and 2, thereby providing the background needed for advanced nutrition science and medical nutrition therapy. Courses related to institutional management, such as accounting and management information systems, are taken during the early part of the programme prior to the more applied Food Systems Management courses.

While a wide variety of courses is available, the students indicated the need for additional flexibility in the programme structure. One suggestion was increasing course electives in areas other than Agriculture. ‘Independent Study’ courses could be added as an elective option, to provide students the opportunity to study an additional area particularly suited to their needs. Further, if students identify courses available at the university in other disciplines that would meet their needs, allowing these as electives would allow for greater programme flexibility.

Based on comments from programme alumni and employers, the curriculum prepares the students adequately to function in the nutrition and dietetics profession. Review of examination scripts and discussions with academic staff indicated that, in general, course content was current and up-to-date.
Students commented, however, that a large amount of material covered in their courses came from the textbook rather than from supplementary materials. Given the fast pace at which knowledge of nutrition and nutrition/disease relationships is currently changing, it is recommended that the lecturers draw more lecture and course discussion materials from sources other than the textbooks, particularly in upper level courses. Requiring the students to seek out supplementary material through the library and on the Internet in these areas will enhance library research skills and help keep course content current. This also would allow experienced students to work at a more advanced level.

The academic staff have met to review course requirements periodically in recent years and some beneficial changes have been made, such as condensing two food science courses with overlapping material into one course, Food Science. Students felt that there was currently an overlap of material between the Foods and Foodservice Systems Management courses. A review of the course syllabi suggests that there is overlap between AH 23A and AH 33A, which are both Foodservice Systems Management courses. The team recommends that the content of AH 13B, AH 23A, AH 23B, AH 33A and MS 22A be reviewed to reduce overlap, as possibly only four courses could be needed to cover the content currently provided in five. Students suggested that concepts related to marketing could be in the Foodservice Systems Management courses, rather than having a separate course requirement for Marketing with MS 20A.

It was noted that some students did not understand the need for the education component (e.g., curriculum) as a part of their professional preparation. Integrating student presentations into courses, perhaps through developing ongoing seminars, would help them to develop presentation skills and also demonstrate that teaching is an integral part of the profession for which they are being prepared.

In Year 1 students in the Home Economics Option have a similar curriculum to the Nutrition/Dietetics Option students, including, among others, courses in Microbiology, Financial Accounting, Introductory Nutrition and Food Science. In Year 2, the students take common courses in Anatomy/Physiology, Psychology, Biochemistry, Statistics and Nutrition throughout the Life Cycle, along with Communication and a University Foundation Course. Home Economics students also pursue Textiles, Apparel Construction, Social and Psychological Aspects of Apparel and Family Resource Management. In Year 3, common courses include Organizational Behaviour, Food Production Management, Curriculum, Marketing, a Project and six electives. Year 3 courses for Home Economics students include Law and the Family, Equipment Principles, Flat Pattern, Child Development, Housing and Advanced Textiles. These courses are, for the most part, consistent with those in general home economics programmes elsewhere and are appropriately sequenced for the intellectual development of students. The Review Team recommends that continued dialogue take place between the Ministry of Education and those teaching the programmes to ensure that the curriculum continues to meet the needs of teachers. Areas that could be explored are the inclusion of Consumer Sciences (Consumer and family economics) and family sciences (family
relationships, advanced child development). As the programmes develop, additional staffing may be needed if these areas are added to the curriculum.

Although the Nutrition/Dietetics Option and the Internship were judged on par with similar programmes elsewhere, there were concerns that the Home Economics Option, while currently adequate, needs to be further developed. Given discussions with representative of the Ministry of Education, which indicated that Home Economics might be phased out in the first three grades of high schools to provide technology instruction, some shifting of the focus of this Option may be warranted. The Review Team encourages the academic staff and the administration to explore developing a second track in the Home Economics Option that focuses on Textile Sciences. Such a focus could provide linkages to the textile and apparel industry within the country and the region, where opportunities for apparel manufacturing, retailing and textile scientist positions may be available. International opportunities in these fields are also strong, thus students could also pursue internships and study abroad experiences in the U.S. and U.K. through developing linkages with international universities.

The five courses currently offered in Textiles and Apparel need to be examined carefully to make sure that they are providing the necessary knowledge and skills to prepare students for professional roles in the industries. Also, a careful analysis of industry needs should be conducted before launching such an effort. The opportunities might, however, provide another viable area for students to consider. Further, staffing this Option with a member of staff capable of conducting textile and apparel research would be important. The department could continue the second track within the Option that would provide a service programme for teachers seeking the bachelor’s degree.

4.4 Teaching and Learning Approaches

In the Department, teaching and learning approaches are informed by:

i. Members of staff networking with local employers
ii. Consultation with colleagues and local professionals
iii. Staff development exercises through collaboration with other universities such as the University of Georgia and the University of Florida
iv. Staff participation in public service advisory committees
v. Participation in professional activities such as conferences/workshops
vi. Access to the Instructional Development Unit of the university.

The Human Ecology teaching and learning approaches “vary according to the preferred methods of individual lecturers and the nature of the course” (Self-Assessment Report, 13). The main approach used is the lecture, assisted by visuals. Other frequently used approaches include case studies, workshops and individual and group research projects. Approaches used infrequently include seminar presentations, field trips and computer-aided learning.

While the main approaches frequently used are appropriate and contribute to learning, the Review Team is of the belief that the teaching and learning strategies that are used infrequently should be used to a greater extent. These
approaches (seminars, field trips, and computer-aided learning) would provide students with more opportunities to apply, synthesize and evaluate knowledge.

Alumni, members of academic staff and professionals who work with students commented that some graduates of the B.Sc. programme had difficulty applying knowledge from courses in a professional setting. Students suggested that course material should be applied as well as theoretical and that additional teaching strategies should be employed to enhance the student’s abilities to apply content in a professional setting.

The increased use of laboratory exercises (nutritional assessment), computer programmes and ‘Independent Study’ would enhance key learning experiences, improve the understanding of concepts, develop critical and analytical skills as well as encourage active learning. Thus, the Review Team recommends that the use of active learning methodologies be increased.

Departmental and cross-campus contact and discussion, along with networking with community professionals and organizations, appear to inform teaching and learning strategies in a limited way. These collaborations could be strengthened to provide support to both academic staff and students. For example, there could be clear linkages with the Faculty of Medical Sciences.

With regard to workload, it was noted that, owing to the fact that a four-year curriculum has been compacted into three years, it should be expected that the student workload would be relatively heavy if desired goals are to be achieved. Organization of courses needs to be streamlined with overlap eliminated (see Section 4.3 for further discussion of overlap issues).

Finally, there were student concerns about the teaching and learning process. First, there was no evidence that an effective system of structured tutorials was in place for the programmes. While some students had developed a strong relationship with their advisor, others noted that it was difficult to meet with assigned advisors for career counseling and advisement on course schedules. There was a perception among some students that if course offerings were changed during their course of study, there might be a change in their degree requirements as well, possibly delaying graduation. Further, students would like the academic staff to seek their input on course curriculum before changes are planned, which should help to alleviate this problem. The Review Team recommends exploration of these student concerns and the establishment of a systematic way of getting student input to enhance programme development.

4.5 Student Profile, Assessment and Learning Outcomes

A mix of students enters the Human Ecology Programmes with some more mature students with work experience along with young school-leaving students. As a result, the entry-level qualification varies. Mature students tend to be less science-oriented so introductory science courses might be beneficial to such students, especially in preparation for courses in advanced nutrition and food science.

The range of assessment methods used is appropriate for providing ongoing feedback to students. According to university policy, the final examination is the major means of assessment.
Student learning outcomes as assessed by the impact of the course are satisfactory. Over their eight years of operation, the Human Ecology Programmes, with the accompanying Internship programme, have made a major impact on human resource development in the areas of Nutrition/Dietetics and Home Economics. This has been done by providing trained Home Economics teachers for the Ministry of Education, trained Dietitians for the Ministry of Health and the public, trained professionals for industry, and qualified candidates for entry into higher education in regional and international institutions.

4.6 Resources

Academic staff The Human Ecology Programmes are commended for establishing two full-time and two contract lecturer positions. Clearly, having full-time staff involved in the programmes has helped the programmes to reach their current level of achievement. However, to be able to maintain the broad based nature of the programmes, additional academic staff members are needed. As the programmes develop over time, additional senior level academic staff should be recruited to enhance research and educational programmes.

For the further development of the current staff, there needs to be strong encouragement to take full advantage of academic development opportunities. Academic staff expressed the need for additional support in time and funds for continuing education, yet there are current policies and procedures in place for staff development. Where possible, contract academic staff in particular need to be exposed to these opportunities for their continuing growth.

Physical Resources The Human Ecology Programmes are commended for acquiring space for the foods and textile laboratories. The square footage for the laboratories is impressive. There are, however, several pieces of equipment that are needed to flesh out these laboratories, including:
- Small equipment
- Equipment for foods and textiles laboratory
- Equipment for nutrition assessment laboratory

It is recommended that the programmes seek linkages with business and industry to secure some of this equipment.

Library Library resources are adequate and students can access library materials through using Internet sources or interlibrary loans. The computer facility in the library is impressive and the hours allow students good access. However, it was noted that some key journals in Human Ecology were not on the library shelves (nor provided through paid online access) and should be in order for students to become regular readers of these publications. The team recommends the following journals be added to the library subscriptions:
- Journal of Family and Consumer Sciences
- Family and Consumer Sciences Research Journal
- Journal of the American Dietetic Association
- Journal of Nutrition Education
- American Journal of Clinical Nutrition
• International Journal of Nutrition
• British Journal of Nutrition

It is also noted that library staff need a thorough orientation regarding the substantive content of Human Ecology so that students can receive appropriate guidance in getting access to references. Also, academic staff need to develop a mechanism with library staff to continuously identify up to date reference materials. Finally, increased access to medical journals is especially needed for Internship students.

**Computer Facilities**  Students need to use the computer facilities that are available to them within the Faculty of Science and Agriculture. Thus, the academic staff should provide strong leadership by developing appropriate learning activities in nutrient analyses, statistical analyses, and computer-assisted design, among other areas.

**Staff Support**  As the programmes develop, the staff support will need to be increased to provide assistance for practical laboratory experiences, computer technology, research and other activities recommended by the Review Team.

4.7 **Quality Assurance**

The 2001 OBUS Quality Assurance review of the Department of Agricultural Economics and Extension indicated that formal quality assurance policies and procedures had not been established in the Department. This was echoed in this review of the Human Ecology Programmes. However, the Human Ecology Programmes have used several mechanisms to assure programme quality. As mandated by UWI courses are examined by First and Second Examiners on an internal basis and are also sent to External Examiners for comparison of examination quality with that of other institutions. The reports of External Examiners are shared with the members of academic staff and External Examiner suggestions have been incorporated into various courses.

Academic staff routinely interact with students and alumni, both individually and in groups, and have obtained their input on programme quality. This has been done in an informal, rather than structured, manner. It is apparent from the current self-review that members of academic staff are aware of many student concerns, suggesting that the process has been quite effective. However, as the programmes mature, it is advisable to establish a more formal and structured system of student and alumni surveys.

End of course evaluations by students are required by UWI. The results of these evaluations are summarized and reported to the Department head and the member of staff concerned. However, the current self-review document suggests that these evaluations have not been done in a timely manner. This process is essential to assess instructional quality and should be streamlined.

Finally, an advisory committee with representation from health professionals and the Ministry of Health was formed to provide guidance for the Internship programme. However, this committee has not met regularly. As the Department seeks approval for the programme from the National Council for Professions Related to Medicine and its Nutrition and Dietetics Board, as well
as from the Committee for the Recognition of Degrees (CORD), it is advisable to again interact regularly with this group of professionals.

It is recommended that the Human Ecology Programmes establish a formal outcomes assessment system directly linked to programme goals and objectives. Measures that could be included are:

- External Examiners’ reports
- Surveys of current students
- Surveys of alumni
- Surveys of employers of alumni
- Reports of student placement in
  1) the field of human ecology
  2) fields related to human ecology
  3) health professions other than dietetics
  4) fields unrelated to human ecology
  5) graduate school placement and completion

Until the time that the Dietetics Internship programme can become recognized by a regional or international dietetics body that would allow students to take a credentialing examination, the Unit may want to consider developing an internal examination to be given at the end of the programme assessing student knowledge of critical concepts. This should be done in collaboration with local and regional professional, approval and accrediting bodies.

4.8 Dietetic Internship

Students, graduates and professionals in the community all perceive the Dietetic Internship as a developing programme that is growing but that is also resulting in positive outcomes. There appears to be a clear understanding that the problems that the programme encountered initially are being rectified. Overall, students seem pleased with their training and the graduates are being recognized as strong professionals upon completing the Internship. There appears to be good communication between students and academic staff in terms of the programme of study and goals for the Internship and also good problem solving throughout the Internship. In particular, the coordinator is doing an excellent job in identifying placements, providing orientations to both students and facilitators, and following-through with assisting in the development of the students. There also appears to be good communication between the coordinator, community facilitators and students.

As the Dietetic Internship develops further, it will need to develop recognition as an accredited programme. There are several paths that could be taken to reach this. The team recommends that the programme proceeds with an application for national accreditation, given its accessibility. Once this is achieved, the programme can then apply to the Council for Professions Related to Medicine and its Nutrition and Dietetics Board for recognition. This recognition will allow graduates to become registered within Trinidad and Tobago, an important individual professional credential. Later the programme can work with the regional professional societies to develop a possible accreditation through international professional organizations. For example, the American Dietetic Association has a new programme that provides for “Substantial Equivalency” so that students graduating from international dietetic internships can take the
Commission on Dietetic Registration Examination and become R.D.’s. There may be similar opportunities through Dietitians of Canada (DC).

5. **SUMMARY OF MAIN RECOMMENDATIONS**

1. The programmes should explore ways to assess and meet the needs of students from the entire region.

2. Having staff use research as a teaching strategy should strengthen the research component of the curriculum.

3. Increasing electives for the students in other areas besides Agriculture should enhance programme flexibility.

4. Faculty should draw more lecture and course discussion materials from sources other than texts, particularly in upper level courses.

5. Faculty should review the content of AH 13B, AH 23A, AH 23B, AH 33A and MS 22A to reduce overlap.

6. In order to facilitate students’ appreciation that teaching is an integral part of the profession for which they are being prepared, student presentations should be integrated into courses.

7. There should be continuing dialogue between the Ministry of Education and the Human Ecology Programmes to ensure that the curriculum continues to meet the needs of teachers.

8. Shifts in areas of focus of the Human Ecology Programmes may be required to reflect shifting emphases at the Ministry of Education.

9. Preceded by an analysis of industry needs, the Textiles and Apparel courses need to be reviewed so that they provide the necessary knowledge and skills for professional roles in the industries. This option must be staffed by an individual capable of conducting textile and apparel research.

10. Certain infrequently used teaching and learning strategies should be used to a greater extent (e.g. seminars, field trips and computer aided learning), and include teaching strategies to enhance students’ abilities to apply content in a professional setting. Greater use should also be made of active learning methodologies.

11. Departmental and cross-campus contact and discussion should be strengthened, as well as networking with community professionals and organizations, in order to provide support to both staff and students.

12. Streamline the organization of courses and eliminate overlap.

13. Academic staff should formally explore student concerns relating to:
    - An effective system of structured tutorials
    - Career counseling and advisement on course schedules
• The impact of changes in course offerings on degree requirements and graduation
• Establishing a systematic method of obtaining student input to enhance programme development.

14. Consideration should be given to offering introductory science courses for more mature students who may be less science oriented, especially in preparation for courses in advanced nutrition and food science.

15. As the programmes develop, additional senior academic staff should be recruited to enhance research and teaching programmes. More support will be needed to provide assistance for laboratory experiments, computer technology, research and the other activities recommended.

16. The programmes should develop a strong research thrust, in addition to the teaching curricula.

17. Contract academic staff need to be exposed to available opportunities for their continuing growth.

18. Linkages should be established with business and industry to secure some of the laboratory equipment needed.

19. Key journals in Human Ecology should be made available to students.

20. Library staff need an orientation regarding the content of Human Ecology so that students can receive guidance in obtaining access to references. Also, academic staff need to develop a mechanism with library staff to continuously identify up to date reference materials. Increased access to medical journals is especially needed for Internship students.

21. Lecturers should develop appropriate learning activities in nutrient analyses, statistical analyses and computer-assisted design, among others.

22. As the programmes mature it is advisable to establish a more formal and structured system of student and alumni surveys.

23. The system of course evaluations by students needs to be more effectively implemented so as to have a positive impact upon instructional quality.

24. The programmes should establish a formal outcomes assessment system directly linked to programme goals and objectives.

25. Pending regional or international accreditation of the Dietetics Internship programme, academic staff should consider developing an internal terminal examination, assessing student knowledge of critical concepts. This should be done in collaboration with local and regional professional, recognition and accrediting bodies.

26. The Dietetic Internship should go forward with national accreditation, then pursue recognition for the programme from the Council for
Professions Related to Medicine and its Nutrition and Dietetics Board. Subsequently, the programme can work with regional professional Societies to develop a possible accreditation through international professional organizations.