

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

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Principal Officers of The University of the West Indies

CHANCELLOR

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OCC, MD, SRCP, SACP (Hon), Hon. DSC (UWI)

VICE-CHANCELLOR

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B.A. Howard, MPhil Yale, MD UPenn, DM (UWI)

CHAIRMAN, CAMPUS COUNCILS

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KA, B.A. Cantab, LLB Lond, Dip in Diplomacy Col, Hon. LLD UWI

The Hon. Don Brice – Mona
OJ CD, B.A. Lond-UCWI

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CA, MBA W. Ont

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B.A., Ph.D. Hull

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B.A. UWI, Dip International Relations
UWI, M.A., Ph.D. Qu

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B.A. Northwestern, M.A. Chicago, Ph.D. Penn

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MD Malta, M.Sc. Lond, Ph.D. UWI, FRCPGLas, FACP

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B.Sc., Emchil. UWI, Ph.D. Wales

Mr. Joseph Pereira – Mona

B.A., Dip Ed UWI, M.A. Qu

Prof. Gurmohan Kochhar – St. Augustine

BE Baroda, MS Wis, Ph.D. UWI, MASHRAE, FAPE, MASME

UNIVERSITY REGISTRAR

Mrs. Gloria Barrett-Sobers
B.A. Lond-UCWI, M.A. Ed Columbia, MBA Miami

UNIVERSITY BURSAR

Mr. Winston H. Bayley
B.Sc. Lond-UCWI, FCCA

UNIVERSITY LIBRARIAN

Dr. Margaret Rouse-Jones
B.A. UWI, M.A. John Hopkins, Ph.D. John Hopkins,
Dip Library & Information Studies Lond

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Message from the Dean

We of the fraternity of the Faculty of Science and Agriculture are proud of the fact that you have selected the University of the West Indies and in particular the Faculty of Science and Agriculture as your tertiary level institution of choice for furthering your education.

We know that you have entered our portals with a dream, a vision with high expectations and of course a sense of commitment to work collectively with us to help you achieve your goals. We have a highly competent and committed complement of academic, administrative, technical support and service staff. We promise you the highest level of professionalism in everything we do and you should demand nothing less of us. Our faculty offers a wide selection of programmes in science and agriculture, many of which are multidisciplinary in nature and which are geared to better prepare you for the world of work. We are constantly revising our curricula to ensure that they are current and relevant.

During your stay here you will be faced with many challenges – academic, financial, emotional, health among others. We have tried to put in place appropriate support systems to help you to successfully face these challenges. We urge you to become familiar with these support systems and to ensure that you fully utilize them as your needs arise. Only by working together can we find solutions to each other's problems.

Welcome and may all your hopes and aspirations become realities.

Professor Dyer Narinesingh

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PRINCIPAL OFFICERS

St. Augustine Campus – UWI

Campus Principal

Dr. Bhoendradatt Tewarie
B.A. Northwestern, M.A. Chicago, Ph.D. Penn

Deputy Campus Principal

Prof. Gurmohan Kochhar
BE Baroda, MS Wis, Ph.D. UWI, MASHRAE, FAPE, MASME

Deputy Campus Registrar

Mr. David Moses
B.Sc. UWI, MS Wayne State, MBA USheffield, CDipAS, ACIS

Campus Bursar

Mrs. Lylla Bada
B.A. (Economics & Accounting) Bristol, ACCA, CA (T&T)

Campus Librarian

Dr. Margaret Rouse-Jones
*B.A. UWI, M.A. John Hopkins, Ph.D. John Hopkins,
Dip Library & Information Studies Lond*

CAMPUS DEANS:

Dean – Faculty of Engineering

Professor Clement Sankat

BSc, M.Sc, UWI, PhD, Guelph, Fl Ag Eg., C Eng.

Dean – Faculty of Humanities and Education

Dr. Ian Robertson

BA, PhD, UWI

Dean – Faculty of Medical Sciences

Professor Phyllis Pitt-Miller

CMT, MB, ChB, DA, FRCA

Dean – Faculty of Social Sciences

Dr. Hamid Ghany

B.A, UWI, MA, Fordham, PhD, London

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***PRINCIPAL OFFICERS &
ADMINISTRATIVE STAFF
OF THE FACULTY***

PBX: 1 (868) 645-3232-9; 662-2002; Exts. 2112, 2113, 2242;
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OFFICE OF THE DEAN

Dean
Prof. Dyer Narinesingh BSc, PhD (UWI)

DEPUTY DEANS

Student Matters School of Agriculture Ext. 3318
Dr. I. Bekele BSc, (Addis Ababa)
 MSc, (Reading), PhD (Cornell)

Student Matters School of Science Exts.: 3108/
3111
Dr. P. Umaharan BSc(Peradeniya), PhD (UWI)

Distance Education Ext.2075/3204
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Dr. J. Seepersad BSc, MSc (UWI), PhD (Illin.)

Graduate Studies Ext. 3095
and Research BSc(UWI), MSc(Manch.),PhD (UWI)
Dr. John Agard

School of Agriculture Mr. D.G. Hutton,
Representative BSc (UWI), MSc (Cornell) (Jamaica)
 Dip. in Nematology
 (Cen. University of Venezuela)

SECRETARIAT:

Dean's Secretary	Mrs. Bernice Henry
Accounting Assistant	Mrs. Mary Claire Licorish
Clerical Assistant	Mrs. Laneta Raghunanan
Clerical Assistant (temporary)	Ms. Cathy Ann Modeste

STUDENT RECEPTION OFFICE: Exts. 2600, 2596; 3525

Senior Administrative Assistant	Mrs. Marlene Sobers, BA, Dip. Pub. Adm. (UWI)
------------------------------------	--

Administrative Assistant	(Vacant)
Secretary	Mrs. Tara Sookhoo

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SCHOOL OF AGRICULTURE

DEPARTMENT OF AGRICULTURAL ECONOMICS & EXTENSION

Head,
Dr. R. H. Singh **Ext. 2093**
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DEPARTMENT OF FOOD PRODUCTION

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SCHOOL OF SCIENCE

CHEMISTRY

Head,
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Dr. Shirin Haque **Ext. 2050**
BSc, MPhil, PhD (UWI)

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INTRODUCTION TO THE FACULTY OF SCIENCE & AGRICULTURE (FSA)

The Faculty of Science & Agriculture (formerly the Faculty of Agriculture & Natural Sciences) was established at the St. Augustine Campus of The University of the West Indies in 1996 from the merger of the former Faculties of Agriculture and Natural Sciences. The Faculty of Agriculture was established in 1960 and continued the tradition of excellence in teaching and research of its predecessor, the Imperial College of Tropical Agriculture, while the Faculty of Natural Sciences was established at St. Augustine in 1972 from the former College of Arts and Science, which began teaching Chemistry, Mathematics and Physics in 1963. Today the FSA is among the largest Faculties in the University offering BSc degrees with programmes in Agriculture, Agribusiness Management, Biochemistry, Biology, Chemistry, Computer Science, Human Ecology, Environmental & Natural Resource Management, Geography, Mathematics, Physics and Zoology. In addition to programmes offered in the FSA, students may pursue programmes in other Faculties subject to prerequisites and availability of places.

Moreover, the Faculty offers diplomas in Agricultural Extension and Institutional and Community Nutrition and Dietetics and also MSc, MPhil and PhD degrees.

PROGRAMME OFFERING IN THE FACULTY OF SCIENCE & AGRICULTURE:

The Faculty of Science & Agriculture (FSA) offers the following Certificate, Diplomas and BSc Degree Programmes:

Certificate programme in Agriculture (by distance teaching)

- a. *Agricultural Extension*
- b. *Institutional and Community Dietetics and Nutrition*

BSc in the following Special Options

- a. *General Agriculture*
- b. *Agri-business Management (face-to-face and distance)*
- c. *Human Nutrition and Dietetics*
- d. *Chemistry & Management*
- e. *Computer Science & Management*

BSc (General) Degree with a major(s) and minor(s) in various disciplines as shown in Table 1.

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Table 1
FSA Majors and Minors

DISCIPLINE	MAJORS	MINORS
Agriculture	Agricultural Science	
Human Ecology	• Food and Food Service Systems Management • Nutritional Science • Family and Consumer Sciences	• Sports Nutrition
Agricultural Economics and Agribusiness	Agribusiness	• Entrepreneurship
Agricultural Extension	-----	• Communications and Extension
Biochemistry	Biochemistry	• Biochemistry
Biology	• Biology • Zoology	• Biology • Biotechnology • Botany • Env. Biology • Marine Biology • Zoology
Chemistry	Chemistry	• Chemistry • Analytical Chemistry
Computer Science	Computer Science	• Computer Science
Mathematics	Mathematics	• Mathematics
Physics	Physics	• Electronics • Env. Physics • Material Science • Medical Physics and Bioengineering
Multidisciplinary	Env. and Natural Resource Mgt.	• Env. and Natural Resource Mgt.
Geography	Geography	-----

Note: For more detailed information on majors and minors, please refer to the relevant Departmental sections of this booklet.

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STUDY ABROAD/EXCHANGE PROGRAMMES

The exchange programme allows students to spend one or two semesters abroad at universities in order to broaden their experience, understanding and perception of agriculture and/or science in a different environment where a wider range of courses is available including independent study projects.

UWI students, while at **exchange** Universities, continue as regular full-time students of The University of the West Indies. They pay UWI tuition and residence fees and pursue matching and/or approved courses for credit. Credits earned abroad are transferred to UWI and applied to regular Faculty degree requirements in accordance with Regulation 46. For **study abroad** the fee requirement may vary.

A list of exchange institutions is given in Appendix II. However, interested students are advised to consult with the Admissions Section of the Campus Registry for a current list of Universities with which UWI has entered into cooperative arrangements for study exchanges.

EVENING UNIVERSITY

Currently the FSA offers only the BSc in Computer Science through the Evening University Programme. Please consult the Admissions Section of the Registry for further details about the Evening University Programme.

APPLICATION PROCEDURE INTO FSA

Applications for entry to the FSA should normally be received by the Admissions Office on or before January 15 of the year in which the applicant wishes to enter and should be accompanied by:

- (i) *official certificates and transcripts giving details of all examinations passed;*
- (ii) *an application fee (Contact the relevant Admissions Office for details).*

Application forms may be obtained from the Admissions Office - St. Augustine, Mona, Cave Hill, or from the Resident Tutors in non-campus countries or downloaded from UWI websites.

Late applications may be accepted under special circumstances on the payment of a late application fee.

IMPORTANT DATES 2005/2006 ACADEMIC YEAR

SEMESTER I BEGINS Sunday August 28, 2005

Orientation	
& Registration Week	August 29 – September 3, 2005
Teaching Starts	Monday September 5, 2005
Teaching Ends	Friday December 2, 2005

Deadline Dates for Changes in Course Registration

ADD Courses	September 16, 2005
DROP Courses	
(Withdrawal)	September 23, 2005
Examination Period	December 5 – 21, 2005
Semester I Examination	
and Semester I End	December 21, 2005

SEMESTER II BEGINS January 15, 2006

Teaching starts	January 16, 2006
Teaching Ends	April 21, 2006

Deadline Dates for Changes in Courses Registration

ADD Courses	January 27, 2006
DROP Courses	
(Withdrawal)	February 3, 2006
Semester II Break	February 26 – March 4, 2006
Examination Period	April 25 – May 12, 2006
Semester II Ends	May 12, 2006

GRADUATION DATES:

Cave Hill	October 22, 2005
St. Augustine	October 28 and 29, 2005
Mona	November 4 & 5, 2005

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FACULTY OF SCIENCE & AGRICULTURE (FSA)

GENERAL REGULATIONS

All students of the University are subject to the General Regulations for Students approved by the Senate of the UWI. Where there is conflict between the regulations of any Faculty and the University Regulations, the University Regulations shall apply.

A. QUALIFICATIONS FOR ADMISSION

1. In order to be admitted to the **four-year degree programme (currently NOT offered at the St. Augustine campus)**, candidates must satisfy the University requirements for Matriculation (see the UWI General Regulations for Students) **AND** have passed the CSEC General Proficiency Level examination at Grades I, II or, since 1998, Grade III (or equivalent qualifications) in Mathematics, English language and two approved science subjects listed in Appendix 1 (a).
2. In order to be admitted to the **three-year degree programmes (offered at all three campuses)**, candidates must satisfy the University requirements for Matriculation (see the UWI General Regulations for Students) **AND** have passed Mathematics and English language at CSEC General Proficiency level at Grades I, II or, since 1998, Grade III (or equivalent qualifications) **AND**
 - (a) Obtained passes in two two-Unit subjects at CAPE, both Units at Grade V or better, (or GCE A-Level equivalent). The specific subject requirements for entry into various FSA programmes are listed in Table 2 below.

OR

- (b) Have an approved Associate Degree or equivalent certification with a GPA of 2.5 (or equivalent) or higher, from a recognized tertiary level institution.

OR

- (c) Have any other qualifications acceptable to the FSA.

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Table 2
CAPE (GCE A-Level or equivalent) qualification
for entry into various FSA BSc Programmes*

BSc (General) with majors in	CAPE subject(s) (GCE A-Level or equivalent)
Agriculture Science	One science subject
Agribusiness	Any two subjects
Biochemistry	Chemistry and biology
Biology	Biology
Chemistry	Chemistry
Computer Science	Mathematics
Env. & Natural Res. Mgt	One science subject
Geography	Geography
Human Ecology	One science subject
Mathematics	Mathematics
Physics	Physics or Mathematics
Zoology	Biology
BSc Options	
BSc General Agriculture	One science subject
BSc Agribusiness Mgt	Any two subjects
BSc Computer Sc. & Mgt	Mathematics
BSc Chemistry & Mgt	Chemistry
BSc Human Nutrition and Dietetics	One science subject

***N.B.** • Candidates must also satisfy Departmental Requirements as well as Regulation 2.
• For a list of approved science CAPE/GCE A-Level subjects, see Appendix 1b.

3. In order to be admitted to the Diploma in Agricultural Extension candidates must:

- i. be graduates of an approved university; OR
- ii. have an approved technical or professional qualification from an **approved** institution; and have sufficient experience or other relevant qualifications which are deemed by the FSA to be adequate

4. In order to be admitted to the Diploma in Institutional and Community Nutrition and Dietetics, candidates must have successfully completed:

- i. A Bachelor's Degree (no more than 5 years prior to application) with major credits in Clinical (Human) Nutrition, Foodservice Systems Management, and Community Nutrition from an **accredited** Tertiary Level Institution.
- ii. Applicants who do not qualify for entry as specified at 4 (i) may be required to pursue supplementary Core and Professional courses at the University, to a **minimum** of 18 credits.
- iii. Selection from suitably qualified applicants will be based on interviews.

B. OUTLINE OF THE BSc DEGREE PROGRAMME

5. The degree of Bachelor of Science is awarded on the basis of a programme of studies (Table-1) selected from courses in Agriculture and/or Science disciplines together with certain Foundation courses and in some cases a number of approved courses from other Faculties.

6. FSA offers the following Bachelors degrees (the terms Major, Minor, Option etc., are defined in the Glossary):

- (a) A BSc general degree with
 - i. a single major in a FSA discipline
 - ii. a double major in two disciplines, one of which may be from a Faculty other than the FSA. Double majors in a single FSA discipline are currently offered only in Mathematics and Biology.
- (b) A BSc general degree with a single major in a FSA discipline **PLUS** one or two minors (from FSA and/or other Faculties).
- (c) BSc Options comprising a prescribed set of departmental, inter-departmental or out-of-faculty courses.

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7. The following types of courses which may consist of both theoretical and/or practical components are offered by the University:
 - (a) *Courses taught by FSA (in Faculty Courses) which include Level 0 (or Preliminary), Level I (or Introductory), and Levels II & III (or Advanced) courses. Preliminary courses may be used to satisfy matriculation requirements or prerequisites for Level I, II or III courses but do not contribute towards the requirements to the award of the degree.*
 - (b) *Service courses, which provide students with basic technical and analytical skills.*
 - (c) *Approved out-of-faculty courses which may contribute toward the requirements for the award of a degree.*
 - (d). *Foundation courses (**see Appendix III**) which are University courses designed to augment the general education of students.*
 - (e) *Courses involving independent, supervised activities which would earn the participant co-curricular credits may be pursued upon approval by the academic board. A maximum of three co-curricular credits may be included as part of the general credit requirements for the award of the BSc degree. The grades earned shall not be taken into account in the determination of the cumulative GPA or honours GPA.*
8. Courses normally extend over one (1) semester, but in special cases may extend over two (2) semesters.
9. The weight of a course is expressed in terms of credit hours, and the credit-weighting of a course is determined by the Faculty which administers the courses. In FSA, a course with one contact hour per week for the whole semester has a weighting of one credit.
10. (a) In order to be eligible for the award of the BSc degree in FSA, candidates must have:
 - i. *been in satisfactory attendance for a period equivalent to at least six (6) semesters of full-time study from entry at Level I and;*
 - ii. *obtained passes in Levels I, II and III and Foundation Courses amounting to the numbers of credits shown in Table 3.*
 - iii. *A cumulative GPA of at least 1.00*

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Table 3
Minimum Credit Requirements

Degree	Level I credits	Level 1 – III credits	Additional Level I – III credits	Foundation	Total
BSc (General)	24	60	8	9	101*
BSc (Options):					
BSc (Agriculture General)	38	69	----	9	116
BSc (Agribusiness Mgt)	33	69	----	9	111
BSc Human Nutrition and Dietetics	36	64	----	9	109
BSc Computer Science & Mgt	36	60	----	9	105
BSc Chemistry & Mgt	30	63	----	9	102

* For degrees including a major in a discipline from another Faculty the number of credits required may vary from this.

- (b) **Of the minimum 101 credits required for the award of a BSc General degree, a minimum of 18 credits at Level I and 32 credits at Levels II and III MUST be taken from FSA courses.**
- (d) **No allowances with respect to the attendance at classes, laboratories, tutorial or examinations will be made for students on the conditions of their employment.**
11. Candidates will not be granted credits for the same course under different majors/ minors.
12. *Exemptions from specific parts of the degree programme may be obtained under the provision of Section I. – Exemptions and Transfers.*
- C. Registration**
13. (a) A student pursuing a degree in the Faculty may register as a full-time student or as a part-time student but may change the status of his/her registration during the tenure of the degree.
- (b) A student who is in full-time employment may only pursue a degree on a part-time basis. Permission for this will depend on submission to the Dean, of a certificate prepared by the Faculty and signed by the student's employer, stating that the student will be given the necessary release throughout the period of registration.
- (c) Full-time students may take employment for not more than 12-hours per week without losing their full-time status. A student who is employed for more than 12-hours per week shall be registered as a part-time student.
- (e) A student employed on a full-time basis may choose to register for programmes offered under the Evening University (Currently only courses in Computer Science are offered by the FSA).
14. (a) A student must register for courses he/she wishes to pursue at the beginning of each academic year **within the prescribed periods.** (Check notice boards).
- (b) A student's registration is deemed complete only after his/her financial obligations to the University have been fulfilled.
15. Changes to the registration will only be permitted up to the end of the third week in Semester-I and up to the end of the second week in Semester-II. (Check notice boards for dates).
16. (a) A student registered for a course may withdraw from it by submitting a completed Change of Registration Form to the Assistant Registrar (Student Affairs) through the Dean. In the absence of exceptional circumstances, such notification must reach the Dean within the Change in Registration period.

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- (b) Registration for any course constitutes registration for the associated examination. A student will therefore be deemed to have failed the course if he/she does not attend the examination without having previously been allowed to withdraw from the course (see Reg. 16 (a)), or without having tendered evidence of illness at the time of the examinations certified by a medical practitioner recognized by the University. In the latter case, the medical certificate must reach the Campus Registrar **no later than seven (7) days after the date of the examination concerned.**
17. (a) A student who has passed a course will not be permitted to re-register for that course.
- (b) A student **may not** be allowed to register for a course on the grounds of repeated failure or poor performance in the course.
- D. Progress through the Programme**
18. (a) Students admitted to the programme under Reg. 2 in addition to registering for the required Level 1 courses, may also register for a maximum of 12 credits in ONE of the Preliminary (Level O) courses offered (Biology, Chemistry, Mathematics or Physics) for the purpose of obtaining prerequisites for entry into a programme of choice.
- (b) Students may not register for Preliminary courses in a subject which overlaps substantially with CAPE/ GCE A-Level courses (or equivalent) previously passed.
- (c) Full-time and Part-time students admitted to the programme under Reg. 2, are required to register for Level I Faculty courses equivalent to a minimum of fifteen (15) or six (6) credits, respectively per semester in addition to a Foundation course.
- (d) In order to satisfy the minimum requirement for entry to Level II, a student must normally record passes in Level I courses equivalent to a minimum of **twenty-four (24)** credits in Faculty courses.
- (e) A student who has obtained passes in Level I Faculty courses equivalent to **eighteen (18) credits** in the first two (2) semesters of full-time study may, on the recommendation of the Dean, be allowed to register for a limited number of Level II courses.
19. The MAXIMUM number of credits (including those from foundation courses) for which a student may normally register in any semester is as follows:
- (a) In the case of students who have not satisfied the requirements of Reg.-18(d) (i.e. students in the introductory part of the programme)
- i. *twenty-one (21) credits subject to a maximum of eighteen (18) credits from Faculty courses, if the student is registered full-time;*
- ii. *twelve (12) credits if the student is registered part-time.*
- (b) In the case of candidates who have satisfied the requirements of Reg. 18(d) (i.e. students in the Advanced part of the programme)
- i. *twenty-three (23) credits subject to a maximum of 20 credits from Faculty courses, if the student is registered full-time;*
- ii. *twelve (12) credits if the student is registered part-time.*
- (c) Full-time students who require not more than twenty-four (24) credits in order to graduate, have satisfied all Foundation course requirements, and are exempted from laboratory coursework in at least one course, may be allowed to register for twenty-four (24) credits of Faculty courses.
20. (a) **Students must make a FINAL DECLARATION of their proposed major(s) and/or minor(s) by the end of the Change in Registration period of the semester in which they intend to graduate.**
- (b) Students must graduate as soon they have met the requirements for the degree for which they have registered.

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E. Examinations

21. In order to pass a course, a candidate must have been in satisfactory attendance at the course, and must have satisfied the examiners in the associated examinations.
22. The examination associated with each course shall be conducted mainly by means of written and/or practical papers, normally taken at the end of the semester in which the candidate has registered for the course concerned. However, oral examination as well as performance in course work in the form of essays, in-course tests, research papers, projects, or continuous assessment of theoretical and/or practical work may contribute towards the final grade awarded in a course.
23. When practical papers and/or practical coursework contribute towards an examination, candidates must satisfy the examiners in both the theoretical and practical aspects of the course. On the basis of performance in the practical part of the course, candidates may, on the recommendation of the Department concerned, be exempted from the practical part of the examination.
24. A candidate who marginally fails the examination associated with FSA courses may, as a concession, be granted permission by the Board of Examiners to sit a Supplemental Examination. Such permission will be given on the basis of the performance of the candidate in the courses concerned. Supplemental examinations are currently offered for courses at all levels in the School of Agriculture and ONLY for Level I courses in the School of Science.
25. (a) A student who is expected to complete the requirements for graduation at the end of a semester or the succeeding semester may be granted permission by the Board of Examiners to sit supplementary oral examinations in failed courses accounting for not more than eight (8) credits provided that the candidate was awarded a minimum of 35% in the final examinations.
 - (b) Candidates passing such oral examinations will be awarded the minimum passing mark of 40% and will not have any right of appeal or review of the outcome:
 - (c) Candidates offered oral examinations may choose to decline the offer.
26. (a) A candidate who fails the examination associated with a course may be given permission to repeat the course and the examination on a subsequent occasion.
 - (b) In the event that such a candidate has satisfied the examiners in the laboratory coursework component of the failed course, the candidate may, on the recommendation of the relevant Department, be exempted from the laboratory coursework.
27. Examinations associated with the Summer Programme are counted as repeats. Supplemental Examinations are not.
28. The Academic Board of a candidate's Campus, on the recommendation of the Faculty Board concerned, may debar a candidate from writing the examination associated with a course. The grade recorded for such a candidate in that course will be Absent Fail.

F. Time Limits for Completion and Enforced Withdrawals

29. For the purposes of Regulations 31 below, any semester in which a student is registered part-time, will be counted as half of a semester of full-time study.
30. (a) A **Semester grade point average** (GPA) based on grades earned on **all** approved courses for which the student is registered in a semester, will be used as the basis for the determination of his/her academic standing.
 - (b) A student whose GPA in any Semester is 0.75 or less will be deemed to be performing unsatisfactorily and will be placed on warning.
 - (c) A student who is on academic warning and who fails to obtain a Semester GPA of 0.75 or better in the succeeding semester will be required to withdraw from the Faculty.

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31. (a) Students admitted to the programme under Reg.2 shall complete the requirements for the degree in a minimum of six (6) or a maximum of ten (10) semesters of full-time study.
- (b) Students who cannot complete the programme within the maximum period given in 31 (a) above will normally be required to withdraw from the Faculty at the end of the academic year in which the maximum is reached.
32. In the event that a student has exhausted the maximum period mentioned in 31 (a) above, but still requires for the completion of the degree programme:
- Either:**
- (a) passes in courses totaling no more than eight (8) credits,
- Or:**
- (b) passes in Foundation courses only, the Faculty Board may at its discretion recommend to Academic Board an extension of the period of study by one (1) or two (2) consecutive Semesters.
33. For the purposes of Regulation 31(a) above, any semester for which a student has obtained Leave of Absence from the Faculty shall not be counted.
34. Notwithstanding Regulations 30 and 31 above, Academic Board may, on the recommendation of the Faculty Board, require the student to withdraw from the Faculty at the end of any semester on grounds of persistent neglect of work and/or repeated failure in examinations.
35. A student required to withdraw from another Faculty may register immediately in the FSA, if, having carefully assessed the circumstances surrounding the withdrawal, it is felt that this is in the best interest of the student's educational goals and that the student satisfies the Faculty's entry requirements;
36. A student who was required to withdraw for reasons of failure to progress may be re-admitted to the Faculty on the following conditions:
- (a) A minimum of one (1) year has passed since the date of withdrawal
- (b) The Faculty is satisfied that the contributing circumstances for the withdrawal have altered substantially.
- (c) All grades previously obtained, except those for courses to be repeated having been **deemed outdated**, shall continue to apply for the purpose of determining the student's GPA.
- (d) Courses pursued in the UWI Summer School during the period of withdrawal shall be included in all relevant grade point average calculations if the student re-enters the UWI.
37. A student who was required to withdraw and was re-admitted and then required to withdraw for a second time, will not normally be considered for re-admission again until a minimum period of five years has elapsed.
- G. Leave of Absence and Voluntary Withdrawal**
38. (a) A student who wishes to be absent from the Faculty for a semester or more may apply for Leave of Absence, through the Dean, to the campus Academic Board, stating the reasons for the application.
- (b) Leave of Absence will not be granted for more than two (2) consecutive semesters in the first instance. However, students may apply for an extension of leave.
- (c) Leave of Absence will not be granted for more than four (4) consecutive semesters.
- (d) Applications for Leave of Absence should normally be submitted not later than the end of the change in registration period in the relevant semester.
39. A student who does not register for any courses during a semester without having obtained Leave of Absence will be deemed to have withdrawn from the Faculty.

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40. A student who voluntarily withdraws from the University and then applies for re-admission within five (5) years shall be granted exemption and credit for all courses previously passed unless the Department concerned declares that the material covered in a course has become outdated. All grades previously obtained except those for courses declared outdated shall be used in the determination of the GPA of such a student.

H. Class of Degree Awarded (for students registered before 2003/04)

41. First Class Honours, Second Class Honours (Upper and Lower Division), or a Pass degrees will be awarded on the basis of marks obtained in the examination in courses as follows:

- (a) the BSc General with a single major, courses amounting to a candidate's best sixty-four (64) credits of the degree programme, including:
 - i. *at least thirty-two (32) from Level II and III FSA courses in the candidate's declared major;*
 - ii. *not more than six (6) credits from Level I FSA courses; and*
 - iii. *the Level II and III credits from courses required for any declared minors.*
- (b) for a double major – courses amounting to sixty-four (64) credits from Level II and III courses, including the courses required for the major in each of the two disciplines;
- (c) for the BSc Agriculture, Agri-business Management and Human Ecology degrees courses amounting to a candidates best sixty-four (64) credits of Level II and III courses, six (6) of which may be replaced by FSA Level I courses.

42. Failure on a previous occasion in courses used in determining the class of honours will result in down-grading in the class of honours as follows:

- (a) by one (1) (sub-) class, if the failed courses account for more than eight (8) credits;
- (b) by two (2) (sub-) classes, if the failed courses account for more than fifteen (15) credits;
- (c) to a pass degree if the failed courses account for more than twenty (20) credits.

For the purposes of this Regulation, repeated failures in the same course will be counted as if they were associated with different courses.

- (d) No course may be used to satisfy the requirements of more than one major. In cases where there is a common course in two majors or a major and a minor such a course must be replaced with an alternative course which must be approved by the Dean of the Faculty concerned.

GPA and Class of Degree Awarded (for students admitted from 2003/04)

43. (a) A **Cumulative** grade point average based on all courses completed for which grades have been obtained (excluding Preliminary courses, those taken on a Pass/Fail basis, audited courses and courses designated I or IP), will be calculated and recorded on the student's transcript.
- (b) An **Honours** grade point average based on grades obtained on **all** Levels II and III courses, whether passed or failed, will be calculated for determination of the class of the degree. (See Appendix VII for the relationship between marks, grade point average and class of degree).
- (c) First Class Honours, Second Class Honours (Upper and Lower Division), or a Pass degree will be awarded on the basis of the Honours grade point average.

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I. Exemptions and Transfers

44. Students admitted to the FSA may be exempted with credit from Level I and/or Level II courses if they:

- are holders of degrees from approved universities,
- have partially fulfilled the requirements of such degrees,
- are holders of Associated Degrees from approved tertiary level institutions (admitted under Reg. 2b)

Application for exemption must be made upon entry through the Faculty Board of the student's campus. Each application will be considered on its own merit.

45. (a) Students on transfer between different BSc degree programmes or from other programmes of study **within** the University may, on the basis of passes already obtained, and on the recommendation of the Departments concerned, be exempted with credit from some or all of the Level I and some of the Level II/III courses.
- (b) Students exempted from courses equivalent to one Year of full time study, may complete the degree programme in a minimum of four (4) or a maximum of eight (8) semesters of full-time study from the time of transfer. Students exempted from all Level I courses and some Level II and/or Level III courses may complete the degree programme in a minimum of two (2) semesters of full-time study from the time of transfer.
46. (a) FSA students who wish to participate in an exchange programme at an institution other than the UWI and desire to have the credits obtained used toward a UWI degree must obtain written approval in advance from the Dean and register for equivalent courses offered by FSA. Failure to do so may preclude the acceptance of the credits.
- (b) Students must have a minimum Cumulative GPA of 2.5 by the end of Semester II to be eligible for participation in an exchange programme in the following academic year.

- (c) Where the course to be taken is to be substituted for a UWI course, the content of the course must be certified by the relevant Department as being equivalent to the UWI course. Course outlines and syllabuses must be provided by the student in order to facilitate the evaluation process.
- (d) Only grades earned at another institution and **NOT** the marks earned shall be used in the computation of the student's GPA.

L. Aegrotat Degree

47. (a) A candidate who, by virtue of illness, was prevented from attending examinations or part of the examinations associated with one or more Level II/III courses in the year of anticipated graduation may apply to the Board for Undergraduate Studies through the University Registrar for an Aegrotat pass in the course. Such an application will only be granted if all the following conditions are satisfied:
- i. *The appropriate Head of Department reports that, on the basis of the candidate's performance during the period preceding the examinations, the candidate was expected to pass the examinations concerned and has satisfactorily completed any associated coursework.*
 - ii. *The application reaches the University Registrar not later than thirty (30) days after the date of the last paper in the examination concerned.*
 - iii. *The application is accompanied by a medical certificate attesting to the illness and issued by a medical practitioner recognised for this purpose by the University.*
- (b) No grade will be awarded in respect of an Aegrotat pass, and a candidate, having been awarded an Aegrotat pass, will not be allowed to re-enter the examination for the course concerned on a subsequent occasion. An Aegrotat pass may not be used to satisfy a Prerequisite for other Level II/III courses.

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- (c) A candidate, having satisfactorily completed the degree programme, who includes Aegrotat passes in courses counted for the degree programme, will be eligible for the award of an Aegrotat degree, provided that both of the following conditions are satisfied:
- i. the courses in which the Aegrotat passes have been granted (and which need to be counted towards the award of the degree) are equivalent to no more than twenty-four (24) credits.
 - ii. no more than sixteen (16) credits mentioned in c (i) above arise from courses making up the candidate's major.
- (d) The Aegrotat degree will be awarded without Honours or Class.

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**DEPARTMENT OF
AGRICULTURAL
ECONOMICS AND
EXTENSION**

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List of Courses Offered in the Department of Agricultural Economics and Extension for the 2005/2006 academic year

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
HUEC 1003	AH12B	Introduction to Nutrition	3
HUEC 1007	AH24C	Introduction to Textiles	3
HUEC 2000	AH20A	Biochemistry	3
HUEC 2001	AH21A	Basic Human Anatomy & Physiology	3
HUEC 2004	AH23B	Foodservice Systems Management (Equipment, Layout & Design)	3
HUEC 2008	AH24D	Social & Psychological Aspects of Apparel	3
HUEC 2010	AH26A	Advanced Nutrition	3
HUEC 2014	AH 26B	Nutrition and Metabolism	3
HUEC 2015	AH 23C	Food Quality and Safety	3
HUEC 3000	AH31B	Flat Pattern Development	3
HUEC 3001	AH32A	Community Nutrition	3
HUEC 3004	AH33B	Food Product Development	3
HUEC 3005	AH34A	Medical Nutrition Therapy I	3
HUEC 3012	AH312	Project	4
HUEC 3014	AH32B	Nutrition in Sports & Fitness	3
HUEC 3017	AH31D	Computer Aided Pattern Development	3
HUEC 3018	AH37D	Fashion Industry & Business Practicum	3
HUEC 3021	AH39C	Advanced Foodservice Systems Management	
HUEC 5000	AH51A	Food Service Systems Management Practicum	
HUEC 5010	AH51P	Food Service Systems Management Practicum	
AGBU 1005	AM15A	Introduction to Microeconomics	3
AGBU 2000	AM21A	Agriculture in the Economy	4
AGBU 2002	AM23B	Management & Economics of Agricultural Production & Marketing	4
AGBU 3001	AM32A	Marketing & Price Analysis	4
AGBU 3005	AM35B	Introduction to Quantitative Methods in Economics	3
AGBU 3006	AM36A	Agricultural Project Appraisal & Implementation	4
AGEX 1000	AX15C	Caribbean Agriculture in Perspective: Evolution, Sociology and Contemporary Issues	4

AGEX 2001	AX25B	Operation & Management of Extension Programmes	4
AGEX 3003	AX39A	Gender Issues in Agriculture	3
AGEX 3004	AX36B	Communication Skills for Professionals	3
AGEX 3012	AX312	Project	4
AGEX 5001	AX502	Community Analysis	4
AGEX 5002	AX503	Extension Philosophy & Principles	4
AGEX 5003	AX504	Communication Theory & Practices	4
AGEX 5005	AX506	Field Research Project	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
HUEC 1001	AH10C	Food Science	3
HUEC 1004	AH13B	Introduction to Foods & Meals Mgt.	3
HUEC 1005	AH12C	Introduction to Biostatistics	3
HUEC 1006	AH24B	Basic Apparel Construction	3
HUEC 2002	AH22A	Nutrition Through the Life Cycle	3
HUEC 2003	AH23A	Food Service Systems Management (Organization, Management & Operation)	3
HUEC 2009	AH25B	Family Resource Management	3
HUEC 2010	AH26A	Advanced Nutrition	3
HUEC 2011	AH21B	Physiology in Health and Disease	3
HUEC 2013	AH20B	Principles of Dietetics	3
HUEC 3002	AH33A	Foodservice Systems Management (Quantity Foods)	3
HUEC 3006	AH34B	Medical Nutrition Therapy II	3
HUEC 3007	AH35A	Law & the Family	3
HUEC 3011	AH37B	Advanced Textiles	3
HUEC 3010	AH37A	Housing & the Environment	3
HUEC 3015	AH32C	Nutrition & Health in Sports Performance	3
HUEC 3016	AH34C	Nutrition in Health & Disease	4
HUEC 3019	AH38A	Computer-Aided Designing for the Fashion Industry	3
HUEC 3020	AH33C	Development of Caribbean Cuisine	3
HUEC 5020	AH52B	Advanced Clinical Nutrition	

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HUEC 5030	AH52P	Clinical Nutrition Practicum					
AGBU 1002	AM17B	Introduction to	4				
		Agro-Environmental					
		Management					
AGBU 1006	AM15B	Macroeconomic Fundamentals	3				
		for Caribbean Agriculture					
AGBU 2003	AM25A	Applied Statistics	3				
AGBU 3000	AM30C	Farm Business Management	4				
AGBU 3002	AM32D	International Marketing	4				
		of Agricultural Products					
AGBU 3003	AM33D	Introduction to Ecotourism:	4				
		Product Design and					
		Management					
AGBU 3004	AM34A	Agricultural Finance	3				
		& Farm Credit					
AGBU 3005	AM35B	Intro. To Quantitative Methods	3				
		in Economics					
AGBU 3007	AM37A	New Venture Creation	4				
		& Management					
AGBU 3009	AM32E	International Trade Policy	3				
		& Regulations					
AGBU 3010	AM39A	Environmental Economics	4				
AGEX 3000	AX30A	Technology Transfer in	3				
		Agriculture					
AGEX 3001	AX35A	Island Food Systems	3				
AGEX 5004	AX505	Current Issues	4				
		in Agricultural &					
		Rural Development					
AGEX 5006	AX507	Managing Extension for	4				
		Agricultural & Rural					
		Development					
AGEX 5007	AX508	Rural Social System	4				

SEMESTER IV

Banner Code	For Pro Code	Title	Credit
AGBU 3008	AM39C	Internship	4
HUEC 5050	AH53P	Community Nutrition Practicum	
HUEC 5040	AH53C	Advanced Community Nutrition	

The Department of Agricultural Economics and Extension offers programmes in the following disciplines:

1. Agricultural Economics & Agribusiness
2. Human Ecology
3. Agricultural Extension and Communication

Commencing in the academic year 2005/06, the Department is introducing a new BSc degree in the Human Ecology Programme replacing the existing degree. Additionally, three Majors and one Minor have been added to this programme. Also the BSc Agribusiness Management degree and the Agribusiness Major have both been modified as indicated below.

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BSc Options, Majors, Minors and Diplomas Offered

A. The Agribusiness Programme

The Agribusiness Programme comprises:

1. The BSc Agribusiness Management (Revised 2005/06)
2. Major in Agribusiness (Revised 2005/06)
3. Minor in Entrepreneurship

B. The Human Ecology Programme

Effective 2005/2006 the department introduces a new Human Ecology Programme which includes three (3) new Majors, one (1) Minor and two (2) Undergraduate degrees as outlined below:

(i) Majors:

- (a) Family and Consumer Sciences
- (b) Nutritional Sciences
- (c) Foods and Foodservice Systems Management

(ii) Minor: Sports Nutrition

(iii) BSc Human Nutrition and Dietetics – Special Degree

(iv) BSc Human Ecology Degree as follows:

Either (a) Double Major comprising *Family and Consumer Sciences* plus: *Nutritional Sciences*
or *Foods and Foodservice Systems Management* or other approved Majors relevant to the Degree.

Or (b) *Major in Family and Consumer Sciences* and a *Minor in Sports Nutrition* **and/or** other approved Minors relevant to the Degree.

(v) Diploma in Institutional and Community Dietetics and Nutrition

C. The Extension and Communication Programme

The Extension and Communication programme comprises:

1. The Minor in Communication and Extension
2. The Diploma in Agricultural Extension

The details of each programme are given below.

Programme Content

A. THE AGRIBUSINESS PROGRAMME:

1. BSc Agribusiness Management (REVISED 2005/06)

Effective 2005/06 Academic Year, the BSc Agribusiness Management programme has been modified as noted below. The programme comprises 89 credits of core courses plus 6 credits of electives from the approved list, 3 credits of practical skills, 4 credits of internship and 9 credits of Foundation courses (FOUN 1101 (FD11A), FOUN 1102 (FD11B), FOUN 1301 (FD13A)).

Degree Structure

Economics/Agricultural Economics	18 credits
Quantitative/IT	15 credits
Professional Courses	50 credits
<i>Accounting/Financial Management</i>	= 12
<i>Related Management</i>	= 9
<i>Agribusiness</i>	= 12
<i>Marketing</i>	= 11
<i>Elective</i>	= 6
Agriculture	8 credits
Practicals/Internship/Agribusiness	11 credits
Foundation	9 credits

Total Credits **111**

Note: Students who entered the program prior to the 2005/06 Academic Year are required to complete the degree as structured when they entered.

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SECTION A (All Courses)

Level I

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGRI 1003	AG14C	Mathematics for Scientists	3
AGBU 1005	AM15A	Introduction to Microeconomics	3
ACCT 1002	MS15E	Introduction to Financial Accounting	3
AGEX 1000	AX15C	Caribbean Agriculture in Perspective: Evolution, Sociology and Contemporary Issues	4

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Semester II

Banner Code	Fox Pro Code	Title	Credit
AGBU 1002	AM17B	Introduction to Agro-Environmental Management	4
ACCT 1011	MS15F	Introduction to Cost & Management Accounting	3
AGBU 1006	AM15B	Macroeconomic Fundamentals for Caribbean Agriculture	3
AGRI 1010	AG18A	Introduction to Crop and Livestock Production	4
COMP 1011	CS10M	Introduction to Information Technology	3

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Semester IV

AGSL 1000	AG133	Practical Skills	3
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Level II

Semester I

Banner Code	Fox Pro Code	Title	Credit
MGMT 2021	MS27A	Business Law	3
AGBU 2002	AM23B	Mgt. & Econ. Of Agric. Prod. & Marketing	4
ACCT 2043	MS25C	Management Accounting	3
AGBU 2000	AM21A	Agriculture in the Economy	4

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Semester II

Banner Code	Fox Pro Code	Title	Credit
MGMT 2012	MS21B	Mgt. Info. Systems I	3
MKTG 2080	MS20A	Principles of Marketing	3
MGMT 2014	MS22A	Organisational Behaviour	3
AGBU 2003	AM25A	Applied Statistics	3
FINM 2060	MS28D	Financial Management	3

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Level III

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGBU 3006	AM36A	Agricultural Project Appraisal & Implementation	4
AGBU 3001	AM32A	Marketing and Price Analysis	4
MGMT 3047	MS32A	Human Resource Management	3
AGBU 3012	AM312	Research Project	4

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Semester II

Banner Code	Fox Pro Code	Title	Credit
AGBU 3000	AM30C	Farm Business Management	4
AGBU 3005	AM35B	Intro. to Quantitative Methods in Economics	3
AGBU 3002	AM32D	International Marketing of Agricultural Products	4
AGBU 3007	AM37A	New Venture Creation and Management	4

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Semester IV

AGBU 3008	AM39C	Internship – to be taken in Year II	4
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SECTION B – LIST OF ELECTIVES

(Six (6) credits from the following courses)

Banner Code	Fox Pro Code	Title	Credit
MGMT 3042	MS31B	Mgt. Information Systems II Analysis and Design	3
AGBU 3003	AM33D	Intro. to Ecotourism: Product Design & Management	4
AGLS 2001	AL21C	Principles of Livestock Production	4
MGMT 3032	MS33C	Entrepreneurial Studies	3
AGBU 3009	AM32E	International Trade Policy and Regulations	3
ECON 2000	EC20A	Intermediate Microeconomics I	3
AGEX 3004	AX36B	Communication Skills for Professionals	3
HUEC 3007	AH35A	Law and the Family	3
HUEC 2009	AH25B	Family Resource Management	3
AGCP 3004	AC32G	Introduction to Floriculture	3
MGMT 2013	MS21E	Introduction to E-commerce	3
MGMT 3030	MS33A	Small Business Management	3
AGEX 3000	AX30A	Technology Transfer in Agriculture	3
AGBU 3004	AM34A	Agricultural Finance and Farm Credit	3
AGLS 3000	AL33B	Poultry Production	3

Note (a):

AG15B Economic and Social Environment a 5 credit course whose content included Microeconomics, Macroeconomics and Rural Sociology is replaced by an introductory course in Microeconomics (AM15A, - 3 credits), and an introductory course in Macroeconomics (AM15B - 3 credits). The Rural Sociology component of AG15B is now included in the new course AX15C Caribbean Agriculture in Perspective: Evolution, Sociology and Contemporary Issues -4 credits.-
The Quantitative Course AM19A, Applied Analytical Technique is being replaced in the programme with the course AG14C: Mathematics for Scientists. Training in Quantitative techniques include a new course in Applied Statistics, AM25A, Applied Statistics- 3 credits and an existing course in Quantitative Techniques - AM35A- 3 credits.

The following courses are no longer requirements for the degree:

- a. AM19B Consumer Economics.
- b. MS31B Management Information System II
- c. MS33B Business Strategy and Policy

Note (b):

Students who intend to pursue an MSc in Agricultural Economics/Agribusiness are advised that Elective Course: Intermediate Microeconomics I would be an asset.

2. Major in Agribusiness (Revised 2005/06)

The Major in Agribusiness has been **REVISED**, effective 2005/06. The modifications are shown in the note below. The Program comprises 32 credits of advanced courses (Levels II & III), distributed according to the following areas of specialization:

- Agri-business Courses – 20 Credits
- Quantitative Courses – 3 Credits
- Communication – 3 Credits
- Elective – 6 Credits

Additionally, a total of 20 credits of Level I prerequisites are required as indicated below.

The Major in Agribusiness comprises: All Courses in Section A and Six (6) credits from courses listed in Section B. (Students must ensure that they satisfy prerequisite requirements).

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PREREQUISITES

Level I

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGBU 1005	AM15A	Introduction to Microeconomics	3
AGEX 1000	AX15C	Caribbean Agriculture in Perspective: Evolution, Sociology and Contemporary Issues	4
AGRI 1003	AG14C	Mathematics for Scientists	3

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Semester II

Banner Code	Fox Pro Code	Title	Credit
COMP 1011	CS10M	Introduction to Information Technology	3
AGRI 1010	AG18A	Introduction to Crop and Livestock Production	4
AGBU 1006	AM15B	Macroeconomic Fundamentals for Caribbean Agriculture	3

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ADVANCED COURSES

Levels II & III

SECTION A Core Courses)

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGBU 2002	AM23B	Management & Economics of Agric. Production & Marketing	4
AGBU 3001	AM32A	Marketing and Price Analysis	4
AGEX 3004	AX36B	Communication Skills for Professionals	3

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Semester II

Banner Code	Fox Pro Code	Title	Credit
AGBU 3000	AM30C	Farm Business Management	4
AGBU 3007	AM37A	New Venture Creation and Management	4
AGBU 3002	AM32D	International Marketing of Agricultural Products	4
AGBU 2003	AM25A	Applied Statistics	3

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SECTION B - LIST OF ELECTIVES

(Select six (6) credits)

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGBU 3006	AM36A	Agricultural Project Appraisal and Implementation	4
AGBU 3005	AM35B	Introduction to Quantitative Methods in Economics	3
FINM 2060	MS28D	Financial Management I	3
AGBU 3012	AM312	Project	4

Semester II

Credit

Banner Code	Fox Pro Code	Title	Credit
AGBU 3009	AM32E	International Trade Policy and Regulations	3
AGBU 3003	AM33D	Introduction to Ecotourism: Product Design & Management	4
MKTG 2080	MS20A	Principles of Marketing	3

3. Minor in Entrepreneurship

The Minor in Entrepreneurship comprises a minimum of 15 credits of Advanced Courses (Levels II and III) and 6 credits of prerequisites. Students are required to complete both courses in Section A and the remaining credits from the list of courses in Section B.

Prerequisites: **AM15A:** Introduction to Microeconomics; and **AM15B:** Macroeconomic Fundamentals for Caribbean Agriculture

SECTION A (All Courses)*

Banner Code	Fox Pro Code	Title	Credit
AGBU 3001	AM32A	Marketing and Price Analysis	4
AGBU 3007	AM37A	New Venture Creation and Management	4

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SECTION B

(At least seven (7) credits from the following)

Banner Code	Fox Pro Code	Title	Credit
AGBU 3006	AM36A	Agricultural Project Appraisal and Implementation	4
MGMT 3032	MS33C	Entrepreneurial Studies	3
MGMT 2021	MS27A	Business Law	3
MGMT 2007	MS21E	Introduction to E-Commerce	3
HUEC 3004	AH33B	Food Product Development	3
BIOL 3863	Z34E	Tropical Aquaculture	4
AGBU 3003	AM33D	Introduction to Ecotourism: Production Design and Management	4
AGBU 3009	AM32E	International Trade Policy & Regulations	3

* NOTE: Students pursuing the Major in Agribusiness, together with a minor in Entrepreneurship, are required to select the 15 credits required from Section B since the courses in Section A are common with the Agribusiness Major

B. THE HUMAN ECOLOGY PROGRAMME:

Effective 2005/2006 the department will introduce a Human Ecology Programme which includes three (3) new Majors, one (1) Minor and two (2) Undergraduate degrees as outlined below²:

- (i) **Majors:**
 - (a) Family and Consumer Sciences
 - (b) Nutritional Sciences
 - (c) Foods and Foodservice Systems Management
- (ii) **Minor:** Sports Nutrition
- (iii) **BSc Human Nutrition and Dietetics – Option**
- (iv) **BSc Human Ecology with Majors/Minor** as follows:

Either (a) Double Major comprising *Family and Consumer Sciences* plus: *Nutritional Sciences* **OR** *Foods and Foodservice Systems Management*

Or (b) The Major/Minor comprising the *Major in Family and Consumer Sciences* and the *Minor in Sports Nutrition* **and/or** other approved Minors relevant to the Degree.

1. Major in Family and Consumer Sciences

The Major in Family and Consumer Sciences comprises **36** credits of advanced courses (Levels II and III) as well as 18 credits of prerequisites courses in Level I. These are outlined below:

CORE COURSES

PREREQUISITE Level I COURSES

Level I

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGBU 1005	(AM15A)	Intro to Microeconomics	3
HUEC 1003	(AH12B)	Introduction to Nutrition	3
HUEC 1007	AH14A	Introduction to Textiles	3
			9

Semester II

Banner Code	Fox Pro Code	Title	Credit
PSYC 1004	PS11B	Intro. to Soc. Psychology	3
HUEC 1006	AH14B	Basic Apparel Construction	3
HUEC 1005	AH12C	Introduction to Biostatistics	3
			9

ADVANCED CORE COURSES

Level II

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 2008	AH24D	Psychological Aspects of Apparel	3
PSYC 2012	PS 24E	Developmental Psychology	3
HUEC 2004	AH23B	Foodservice Systems Mgt (Equip., Layout & Design)	3
			9

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Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 2009	AH25B	Family Resource Mgt	3

Level III

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 3017	AH 31D	Computer Aided Pattern Development	3
HUEC 3000	AH31B	Flat Pattern Development	3
HUEC 3018	AH 37D	Fashion Industry and Business	3
HUEC 3021	AH39C	Practicum	3
			12

Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 3010	AH37A	Housing and the Environment	3
HUEC 3019	AH38A	Computer-Aided Design for the Fashion Industry	3
HUEC 3007	AH35A	Law and the Family	3
HUEC 3011	AH37B	Advanced Textiles	3
			12

2. Major in Nutritional Sciences

The Major in Nutritional Sciences comprises **31** credits of advanced courses (Levels II and III) and 18 credits of prerequisites courses in Level I. These are presented below:

Core Course

PREREQUISITE Level I COURSES

Level I

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 1003	AH12B	Introduction to Nutrition	3
AGRI 1012	AG10A	Microbiology	3
CHEM 1062	C10A	Basic Chemistry for Life Sciences	3
Total			9

Semester II

HUEC 1005	AH12C	Introduction to Biostatistics	3
AGRI 1013	AG10B	Intro. to Biochemistry	3
HUEC 1004	AH13B	Intro to Foods & Meal Mgt	3
Total			9

ADVANCED COURSES

Level II

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 2000	AH20A	Biochemistry	3
HUEC 2001	AH21A	Basic Human Anatomy & Phys	3
HUEC 2014	AH26B	Nutrition and Metabolism	3
			9

Semester II

HUEC 2002	AH22A	Nutrition thru. the Life Cycle	3
HUEC 2011	AH21B	Physiology in Health and Disease	3
			6

Level III

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 3001	AH32A	Community Nutrition	3
HUEC 3014	AH32B	Nutrition in Sports & Fitness	3
HUEC 3021	AH39C	Practicum	3
			9

Semester II

HUEC 3016	AH34C	Nutrition in Health and Disease	4
HUEC 3015	AH32C	Nutrition and Health in Sports Performance	3
			7

3. Major in Foods & Foodservice Systems Management

The Major in Foods and Foodservice Systems Management comprises **31** credits of advanced courses (Levels II and III) and 21 credits of prerequisites courses in Level I. These are as follows:

CORE COURSES

PREREQUISITE LEVEL I COURSES

Level I

Semester I

Banner Code	Fox Pro Code	Title	Credit
AGRI 1012	AG10A	Microbiology	3
CHEM 1062	C10A	Basic Chemistry for Life Sciences	3
ACCT 1002	MS15E	Intro. To Financial Accounting	3
HUEC 1003	AH12B	Intro to Nutrition	3
AGBU 1005	AM15A	Intro to Microeconomics	3
			15

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Semester II

HUEC 1001	AH10C	Food Science	3
HUEC 1004	AH13B	Intro. to Foods and Meal Management	3
			6

ADVANCED COURSES

Level II

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 2004	AH23B	Foodservice Syst. Mgt (Equip., Layout & Design)	3
HUEC 2015	AH23C	Food Quality and Safety	3
			6

Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 2003	AH23A	Foodservice Systems Mgt. (Org & Mgt)	3
MKTG 2080	MS20A	Principles of Marketing	3
			6

Level III

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 3004	AH33B	Food Product Development	3
MGMT 2008	MS22A	Organizational Behaviour	3
HUEC 3021	AH39C	Practicum	3
Total			9

Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 3002	AH33A	Foodservice System Mgt. (Quantity Foods)	3
AGBU 3007	AM37A	New Venture Creation and Management	4
HUEC 3020	AH33C	Development of Caribbean Cuisine	3
			10

SECTION A (Core Courses)

The prerequisite for the advanced courses listed in this minor is HUEC 1003 (AH12B) Introduction to Nutrition (3). Additionally, the course HUEC 2001 (AH21A) Basic Human Anatomy & Physiology (3) is a co-requisite for Course AH20C.

Banner Code	Fox Pro Code	Title	Credit
HUEC 3016	AH 34C	Nutrition in Health and Disease	4
HUEC 2012	AH20C	Nutritional Assessment for Sports	3
HUEC 3014	AH32B	Nutrition in Sports and Fitness	3
HUEC 3021	AH32C	Nutrition and Health in Sports Performance	3
			13

SECTION B

(at least 3 credits must be selected from the following courses)

Banner Code	Fox Pro Code	Title	Credit
MGMT 2010	MS22M	Introduction to Sports Management	3
MGMT 3027	MS32N	Sports Marketing and Public Relations	3
MGMT 2022	MS27E	The Law and Sports	3
AGEX 3004	AX36B	Communication Skills for Professionals	3
PSYC 2012	PS24E	Developmental Psychology	3
HUEC 3007	AH35A	Law and the Family	3
SOCI 3005	SY31C	Sociology of Health and Illness	3
AGBU 3007	AM37A	New Venture Creation and Management	4
MGMT 2009	MS22G	Sociology of Sports	3
MGMT 2007	MS21E	Introduction to E-Commerce	3

4. Minor in Sports Nutrition

The Minor in Sports Nutrition comprises 16 credits of advanced courses (Levels II and III) and 6 credits of prerequisites/co-requisites. Students are required to complete all courses in Section A (below) and to take at least 3 credits from the list of courses in Section B.

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5. BSc Human Nutrition and Dietetics - Special Degree

The requirements for the BSc Human Nutrition and Dietetics are 94 credits of core courses plus 6 credits of electives from the approved list, as well as 9 credits of Foundation courses (FOUN 1101 (FD11A), FOUN 1102 (FD11B), FOUN 1301 (FD13A)). The degree structure and courses are presented hereunder.

Degree Structure:

Professional Courses	=	39 credits
Management Courses	=	21 credits
Science Courses	=	30 credits
Research	=	4 credits
Electives Courses	=	6 credits
Foundation Courses	=	9 credits
Total	=	109 credits

CORE COURSE

Level I

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 1003	AH12B	Introduction to Nutrition	3
AGRI 1012	AG10A	Microbiology	3
CHEM 1062	C10A	Basic Chemistry for Life Sciences	3
ACCT 1002	MS 15E	Intro to Financial Accounting	3
AGBU 1005	AM15A	Introduction to Microeconomics	3
AGRI 1003	AG14C	Mathematics for Scientists	3
			18

Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 1005	AH12C	Introduction to Biostatistics	3
HUEC 1001	AH10C	Food Science	3
ACCT 1003	MS15F	Intro. to Cost & Managerial Accounting	3
AGRI 1013	AG10B	Intro. to Biochemistry	3
HUEC 1004	AH13B	Intro to Foods & Meal Mgt.	3
PSYC 1004	PS11B	Introduction to Social Psychology	3

18

Level II

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 2000	AH 20A	Biochemistry	3
HUEC 2001	AH 21A	Basic Human Anatomy & Physiology	3
HUEC 2014	AH26B	Nutrition and Metabolism	3
HUEC 2004	AH 23B	Foodservice Systems Mgt (Equip., Layout & Design)	3
MGMT 2008	MS22A	Organizational Behaviour	3
AGEX 3004	AX36B	Communication Skills for Professionals	3
			18

Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 2002	AH 22A	Nutrition Throughout the Life Cycle	3
HUEC 2013	AH20B	Principles of Dietetics	3
HUEC 2011	AH21B	Physiology in Health and Disease	3
HUEC 2003	AH23A	Foodservice Systems Mgt. (Org & Mgt)	3
MKTG 2080	MS20A	Principles of Marketing	3

Total 15

Level III

Semester I

Banner Code	Fox Pro Code	Title	Credit
HUEC 3001	AH32A	Community Nutrition	3
HUEC 3005	AH34A	Medical Nutrition Therapy I	3
HUEC 3004	AH33B	Food Product Development	3
HUEC 3012	AH312	Research Project	4
HUEC 3014	AH32B	Nutrition in Sports and Fitness	3

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Semester II

Banner Code	Fox Pro Code	Title	Credit
HUEC 3006	AH 34B	Medical Nutrition Therapy II	3
HUEC 3020	AH33C	Development of Caribbean Cuisine	3
HUEC 3002	AH33A	Foodservice Syst. Mgt. (Quantity Foods)	3

9

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ELECTIVE COURSES

A minimum of 6 credits is required from the following:

Banner Code	Fox Pro Code	Title	Credit
HUEC 3015	AH32C	Nutrition Health in Sports Performance	3
AGBU 3001	AM32A	Marketing & Price Analysis	4
AGBU 3003	AM33D	Introduction to Eco-Tourism: Product Design and Management	4
AGBU 3006	AM36A	Project Appraisal	4
AGCP 3008	AC33A	Post Harvest Technology	3
AGBU 3005	AM35B	Introduction to Quantitative Methods in Economics	3
SOCI 3005	SY31C	Sociology of Health and Illness	3
MGMT 2007	MS21E	Introduction to E-Commerce	3
PSYC 2012	PS24E	Developmental Physiology	3
PSYC 2011	PS24D	Selected Theories in Social Psychology	3
HUEC 3007	AH35A	Law and the Family	3
AGBU 3007	AM37A	New Venture Creation and Management	4

Note: Individuals wishing to practice as a Dietitian/Nutritionist must complete a one-year (calendar) Internship in Nutrition and Dietetics, following the successful completion of this degree.

6. BSc Human Ecology Programmes

The total credit requirements for the BSc. Human Ecology Degree and BSc. Human Nutrition and Dietetics (Special Degree) are detailed in the departmental listing. Students are required to complete a minimum of 64 credits from Levels II and III.

7. Diploma in Institutional and Community Dietetics and Nutrition

In order to be admitted, candidates must have successfully completed a Bachelor's Degree (no more than 5 years prior to application) with major credits in Clinical (Human) Nutrition, Foodservice Systems Management, and Community Nutrition, from a University or College acceptable to The University of the West Indies, St Augustine.

Applicants who do not qualify for entry as specified may be required to pursue supplementary Core and Professional courses at the University, to a minimum of eighteen (18) credits.

Selection from suitably qualified applicants will be based on interviews.

The Programme comprises of the following courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
HUEC 500	AH 51A	Advanced Foodservice Systems Management	4
HUEC 501	AH 51P	Foodservice Systems Management Practicum	8

SEMESTER II

HUEC 502	AH52B	Advanced Clinical Nutrition	4
HUEC 503	AH 52P	Clinical Nutrition Practicum	8

SEMESTER IV

HUEC 504	AH 53C	Advanced Community Nutrition	4
HUEC 505	AH 53P	Community Nutrition Practicum	8

Note (a) :

1. One credit hour is one (1) lecture hour or three (3) practical hours per week in any one semester.
2. For the practical courses AH51P, AH52P, AH53P, in-course assignments will contribute 100% to the total marks for the course.

Note (b) : Enforced Withdrawal And Resits

1. Candidates who fail four (4) or more courses will be required to withdraw from the programme.
2. Candidates marginally failing three (3) or less courses will normally be allowed a supplementary examination in these courses.
3. Candidates who fail no more than two (2) courses may be allowed to register for those courses as a final attempt.

Note (c) : Requirements For Graduation

1. The Diploma in Institutional and Community Dietetics and Nutrition will be awarded on successful completion of all courses.
2. The Diploma will be awarded with distinction to candidates whose overall average is 70% or greater.

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C. EXTENSION PROGRAMME:

1. Minor in Communication and Extension

The Minor in Communication and Extension comprises a minimum of 16 credits of Levels II and III courses selected from the list below. The prerequisites for this minor are AX15C, AM15A and AM15B.

Core Courses

(A minimum of 16 credits must be selected from the following courses)

Banner Code	Fox Pro Code	Title	Credit
AGEX 2001	AX25B	Operation and Management of Extension Programmes	4
AGEX 3000	AX30A	Technology Transfer in Agriculture	3
AGEX 3012	AX312	Project	4
AGEX 3004	AX36B	Communication Skills for Professionals	3
AGEX 3003	AX39A	Gender Issues in Agriculture	3
AGEX 3001	AX35A	Island Food Systems	3

2. Diploma in Agricultural Extension

This programme will be offered subject to a minimum registration of ten (10) students.

The course of study for the Diploma in Agricultural Extension is offered over one (1) academic year of full-time study, and consists of lectures, seminars and practical assignments along with field research which can be conducted in any Caribbean country.

In order to be admitted, candidates must be graduates of an approved University; or hold a technical or professional qualification awarded by an approved Tertiary Level Institution in addition to practical experience or other qualifications of special relevance to the course of studies.

Candidates will be awarded the diploma on successful completion of all the core courses and one of the two elective courses listed below:

CORE COURSES

Banner Code	Fox Pro Code	Title	Credit
AGEX 5001	AX502	Community Analysis	4
AGEX 5002	AX503	Extension Philosophy and Principles	4
AGEX 5003	AX504	Communications Theory and Practice	4
AGEX 5004	AX505	Current Issues in Agricultural & Rural Development	4
AGEX 5005	AX506	Field Research Project	8

ELECTIVE COURSES

AGEX 5006	AX507	Managing Extension for Agricultural and Rural Development	4
AGEX5007	AX508	Rural Social Systems	4

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DEPARTMENT OF FOOD PRODUCTION

Dr G. Gouveia,
Head of Department

Mrs. Margaret Maxwell
Departmental Secretary

Tel: 1-868-662-2002, Ext. 2090 or 2089

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R.A.I. Brathwaite, Professor of Agronomy
BSc (Poona), PhD (UWI)

Neela Badrie, Senior Lecturer
BSc, MSc, PhD (UWI) Microbiology

I. Bekele, Senior Lecturer
BSc (Addis Ababa), MSc Biometrics
(Reading) PhD (Cornell)

G.W. Garcia, Senior Lecturer
BSc, PhD (UWI) Animal Science

G. Gouveia, Lecturer
BSc, PhD (UWI) Soil Chemistry
& Leader, Soils
and Natural Resources Unit

G. Eudoxie Lecturer
BSc, PhD (UWI) Soil Science

C.H.O. Lallo, Lecturer
BSc, MSc (UWI) Animal Science

M. Mohammed, Senior Lecturer
BSc (UWI), MSc (Guelph), Crop Production
PhD (UWI)

R.K. Rastogi, Senior Lecturer
B.V. Sc. & AH., M.V. Sc. Animal Science
(G.B. PANT University, Agric.
& Tech. India) PhD (Minnesota)

M. Knights Lecturer
BSc, MSc, (UWI) Animal Science
PhD (West Virginia) & Leader, Livestock Science Unit

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Laura Roberts-Nkrumah, Lecturer
BSc, PhD (UWI) Crop Production

List of Courses Offered in the Department of Food Production
for the 2005/2006 academic year

R.J. Stone,
BSc (UWI), MSc (Guelph),
PhD (UWI)

Senior Lecturer
Agricultural Engineering

Lynda D. Wickham,
BSc, PhD (UWI)

Senior Lecturer
Crop Production
& Leader, Crop Science Unit

L.A. Wilson,
BSc MSc (London-UCWI),
PhD (Brist.)

Emeritus Professor
Crop Science

Nazeer Ahmad,
AICTA, MSc (UBC), PhD
(Nott.)

Emeritus Professor
Soil Science

Holman E. Williams,
D.V.M (Tor.), MSc (Wis.),
PhD (Edin.), M.R.C.V.S.

Emeritus Professor
Livestock Science

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGCP 2000	AC23A	Biosystems Engineering Principles	3
AGCP 2001	AC24B	Principles of Crop Science and Production	4
AGCP 3002	AC32E	Crop Production Systems	4
AGCP 3004	AC32G	Introduction to Floriculture	3
AGCP 3008	AC33A	Postharvest Technology	3
AGCP 3011	AC30B	Major Caribbean Export Crops	3
AGGE 1900	AG19A	Physical Geography	6
AGLS 1001	AL13C	Anatomy and Physiology of Animals	3
AGLS 2002	AL22B	Animal Nutrition	3
AGLS 2004	AL26A	Livestock Products Technology	3
AGLS 3000	AL33B	Poultry Production	3
AGLS 3003	AL36A	Ruminant Production	3
AGLS 3008	AL30C	Applied Animal Physiology	3
AGRI 1012	AG10A	Microbiology	3
AGRI 3006	AG30B	Principles of Animal and Plant Breeding	3
AGSL 1000	AS16B	Soils and the Environment	4
AGSL 2000	AS22B	Soil Fertility and Fertilizer Technology	3
AGSL 3004	AS34D	Integrated Watershed Management	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGCP 2003	AC26B	Mechanisation for Crop Production	3
AGCP 3005	AC32H	Landscape and Turfgrass Management	3
AGCP 3006	AC32J	Principles of Fruit Crop Production	4
AGCP 3012	AC30A	Tropical Food Crop	3
AGGE 1901	AG19B	Human Geography	6
AGLS 2005	AL20B	Parasitology, Animal Health and Disease	3
AGLS 3004	AL37B	Non-Ruminant Production	3
AGLS 3005	AL38B	Principles of Wildlife Production and Management	3
AGRI 1003	AG14C	Mathematics for Scientists	3

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AGRI 1011	AG10C	Introduction to General Genetics	3
AGRI 1013	AG10B	Introduction to Biochemistry	3
AGRI 1016	AG11B	Plant Anatomy and Physiology	3
AGRI 2001	AG21C	Tropical Crop Protection	3
AGRI 3000	AG35B	Statistical Methods	4
AGRI 3001	AG39A	Climate Change Impact and Management	4
AGRI 3007	AG39B	Current Issues in Agriculture	3
AGRI 3012	AG30A	Agricultural Biotechnology	3
AGSL 2001	AS21D	Soil and Water Management	3
AGSL 3001	AS31A	Irrigation and Drainage Technology	4
AGSL 3002	AS33D	Soil Survey and Land Evaluation	4
AGSL 3005	AS35B	West Indian Soils	3

SEMESTER I & II

AGRI 3013	AG313	Research Project	4
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SEMESTER IV - SUMMER

AGRI 1000	AG133	Practical Skills	3
AGRI 2000	AG233	Internship	4

BSc AGRICULTURE (General)

Students admitted into the BSc Agriculture programme in the academic year 2005/2006 are required to complete the courses of a revised BSc programme as given below. In this academic year only Level I courses will be offered in the revised programme. Students admitted before 2005/06 are required to complete the existing programme which will be phased out by 2006/07.

Note: Students admitted into the BSc Agriculture programme before 2005/2006 academic year are required to complete the requisite courses under the old structure. Under this structure, students must pass the core courses and a minimum of fifteen (15) credits of elective courses. In addition, all students must complete AG233 (Internship) and AG313 (Project).

CORE COURSES ARRANGED BY LEVEL AND SEMESTER

In the restructured BSc Agriculture (General) Degree the requirement for the award of the degree comprises 107 core credits in Basic/Agriculture Science and Skills, Crop, Animal and Soil Sciences, and Economics and Extension, plus 9 credits of Foundation courses (FOUN 1101 (FD11A), FOUN 1102 (FD11B), FOUN 1301 (FD13A)). The Degree structure and courses are presented below:

LEVEL I – CORE COURSES

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGRI 1012	AG10A	Microbiology	3
AGLS 1001	AL13C	Anatomy and Physiology of Animals	3
CHEM 1062	C10A	Basic Chemistry for Life Sciences	3
AGBU 1005	AM15A	Introduction to Microeconomics	3
AGSL 1000	AS16B	Soils and the Environment	4
AGEX 1000	AX15C	Caribbean Agriculture in Perspective: Evolution, Sociology and Contemporary Issues	4
			20

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGRI 1013	AG10B	Introduction to Biochemistry	3
AGRI 1016	AG11B	Plant Anatomy and Physiology	3
AGRI 1011	AG10C	Introduction to General Genetics	3
AGBU 1006	AM15B	Macroeconomic Fundamentals for Caribbean Agriculture	3
AGRI 1003	AG14C	Mathematics for Scientists	3
			15

SEMESTER IV

AGRI 1000	AG133	Practical Skills – Summer Course	3
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LEVEL II – CORE COURSES

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGCP 2000	AC23A	Biosystems Engineering Principles	3
AGCP 2001	AC24B	Principles of Crop Science and Production	4
AGLS 2002	AL22B	Animal Nutrition	3
AGBU 2002	AM23B	Management & Economics of Agricultural Production & Marketing	4
AGSL 2000	AS22B	Soil Fertility and Fertilizer Technology	3
			17

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGLS 2005	AL20B	Parasitology, Animal Health and Diseases	3
AGEX 3000	AX30A	Technology Transfer in Agriculture	3
AGRI 3000	AG35B	Statistical Methods	4
AGSL 2001	AS21D	Soil and Water Management	3
AGRI 2001	AG21C	Tropical Crop Protection	3
			16

AGRI 2000	AG233	Internship - Summer Course	4
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LEVEL III – CORE COURSES

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGCP 3011	AC30B	Major Caribbean Export Crops	3
AGCP 3008	AC33A	Post-harvest Technology	3
AGRI 3006	AG30B	Principles of Animal and Plant Breeding	3
AGLS 3003	AL36A	Ruminant Production Systems	3
AGRI 3013	AG313	Research Project	4
			16

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGCP 3012	AC30A	Tropical Food Crops	3
AGRI 3012	AG30A	Agricultural Biotechnology	3
AGLS 3004	AL37B	Non-Ruminant Production Systems	3
AGSL 3001	AS31A	Irrigation and Drainage Technology	3
AGBU 3000	AM30C	Farm Business Management	4
			16

MAJOR IN AGRICULTURAL SCIENCE

The Major in Agriculture Science has been revised effective 2005/2006 academic year. Students admitted into the Major in Agriculture Science are required to do the following courses:

LEVEL I

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGLS 1001	AL13C	Structure and Function of Animals	3
CHEM 1062	C10A	Basic Chemistry for Life Sciences	3
AGSL 1000	AS16B	Soils and the Environment	4
			10

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGRI 1016	AG11B	Plant Anatomy and Physiology	3
AGRI 1013	AG10B	Introduction to Biochemistry	3
			6

SEMESTER IV

AGRI 1000	AG133	Practical Skills – Summer Course	3
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LEVELS II & III

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGCP 2001	AC24B	Principles of Crop Science and Production	4
AGCP 3008	AC33A	Postharvest Technology	3
AGLS 2002	AL22B	Animal Nutrition	3
AGSL 2000	AS22B	Soil Fertility and Fertilizer Technology	3
			13

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGLS 2005	AL20B	Parasitology, Animal Health and Diseases	3
AGRI 3012	AG30A	Agricultural Biotechnology	3
AGRI 3000	AG35B	Statistical Methods	4
AGSL 2001	AS21D	Soil and Water Management	3
AGLS 3003	AL36A	Ruminant Production Systems	3
AGLS 3004	AL37B	Non Ruminant Production Systems	3
AGRI 2001	AG21C	Tropical Crop Protection	3
			22

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ELECTIVE COURSES

The following are general electives offered in the Department of Food Production:

Courses offered during the 2005/2006 academic year.

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGCP 3002	AC32E	Crop Production Systems	4
AGLS 3000	AL33B	Poultry Production	3
AGCP 3004	AC32G	Introduction to Floriculture	3
AGCP 3001	AC31A	Vegetable Production	4
AGLS 2004	AL26A	Livestock Products Technology	3

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGRI 3007	AG39B	Current Issues in Agriculture	3
AGCP 2003	AC26B	Mechanisation for Crop Production	3
AGCP 3005	AC32H	Landscape and Turfgrass Management	3
AGEX 2001	AX25B	Operation and Management of Extension Programmes	3
AGSL 3005	AS35B	West Indian Soils	3

Courses to be offered during the 2006/2007 academic year only.

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGSL 3004	AS34D	Integrated Watershed Management	4
AGLS 2004	AL26A	Livestock Products Technology	3
AGLS 3008	AL30C	Applied Animal Physiology	3

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGLS 3005	AL38B	Principles of Wildlife Production & Management	3
AGRI 3001	AG39A	Climate Change Impact and Management	4
AGCP 3006	AC32J	Principles of Fruit Crop Production	4
AGSL 3002	AS33D	Soil Survey & Land Evaluation	4

MAJOR IN GEOGRAPHY

(a) Students admitted to do the Major in Geography are required to do the following prerequisite courses:

LEVEL 1

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
AGGE 1900	AG19A	Physical Geography	6

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGGE 1901	AG19B	Human Geography	6

(b) Courses required for the major will be provided during the 2005/06 academic year.

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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DEPARTMENT OF CHEMISTRY

Dr. A.R. Maxwell (Head)
BSc, MSc (UWI), PhD (Br. Col)

Ms. Linda Philip
(Secretary)

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Anderson R. Maxwell, Senior Lecturer &
BSc, MSc (UWI), PhD (Br. Col) Head of Department

Lincoln Hall, Professor
BSc, MPhil, PhD (UWI)

Dyer Narinesingh, Professor
BSc, PhD (UWI)

Gurdial Singh Professor
B. Sc. (Liv.), PhD (Man)

Ivan Chang-Yen, Senior Lecturer
BSc (Guy), MSc., PhD (Brist)

David Stephenson, Senior Lecturer
*B.A. (York), MPhil. (CNAA),
PhD (Lond)*

Denise Beckles, Lecturer
*AB (Harvard), MSc,
PhD (Rice University)*

Andrew Caffyn, Lecturer
BSc (Brist), PhD (Camb)

Lutchminarine Chatergoon, Lecturer
BSc, (CNAA), PhD (Lond)

Richard Fairman, Lecturer
BSc, PhD (UWI)

Lebert Grierson, Lecturer
BSc, (Lond), PhD (Lond)

Ramish Pingal Lecturer (Temporary)
BSc, PhD (UWII)

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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Russel Ramsewak, BSc, PhD (UWI)	Lecturer
Wilfred R. Chan, BSc, MSc, (Lond-UCWI), PhD (Lond)	Professor Emeritus
Baldwin S. Mootoo, BSc (Lond-UCWI), MSc (Lond), PhD (UWI)	Professor Emeritus
Compton E. Seaforth, BSc (Lond-UCWI), PhD (Wales)	Honorary Lecturer
Andrew Pelter BSc, PhD, D.Sc. (Brist)	Honorary Professor
Mrs. R. Ali-Hassan	Administrative Assistant
Ms. N. Robertson	Clerical Assistant
Ms. B. Cunningham	Clerical Assistant
Mrs. C. Joseph-Peters	Office Attendant

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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CHEMISTRY

The following list indicates courses to be taught in 2005/2006:-

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
CHEM 0060	C06E	Preliminary Chemistry I*	0
CHEM 1060	C11C	Introductory Chemistry I	6
CHEM 2160	C20A	Main Group Chemistry	4
CHEM 2360	C20C	Basic Physical Chemistry	4
CHEM 2025	C20E	Kinetics & Mechanism	4
CHEM 3167	C30A	Advanced Inorganic Chemistry	3
CHEM 3267	C30B	Basic Organic Chemistry II	3
CHEM 3367	C30C	Thermodynamics & Statistical Thermodynamics	3
CHEM 3467	C30F	Basic Analytical Chemistry	6
CHEM 3567	C30G	Introduction to Polymer Chemistry	3
CHEM 3660		Research Project	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
CHEM 0061	C06F	Preliminary Chemistry II*	0
CHEM 1061	C11D	Introductory Chemistry II	6
CHEM 2260	C20B	Basic Organic Chemistry I	4
CHEM 2015	C20D	Spectroscopy	4
CHEM 2460	C20F	Principles of Chemical Analysis	4
CHEM 3566	C30E	Environmental Chemistry	3
CHEM 3168	C31A	Advanced Topics in Inorganic Chemistry	3
CHEM 3268	C31B	Chemistry of Natural Products	3
CHEM 3568	C31C	Corrosion Science	3
CHEM 3468	C31F	Advanced Analytical Chemistry	6
CHEM 3569	C31G	Industrial Chemistry I	4
CHEM 3269	C32B	Organic Synthesis	3
CHEM 3660	C30P	Research Project	4

*Taught by School of Continuing Studies; not counted towards a student's cumulative GPA

** From 2005/2006, Chemistry majors will be required to pursue a Final Year Research Project course (96 hours) - in either Semester I or II; the 3000 (C30) level courses will no longer carry a practical component.

For all Preliminary, Level I and Level II Chemistry courses (unless otherwise stated) Practical work will be assessed throughout the semester and will contribute to the candidate's final mark. Unsatisfactory performance in the Practical component of any course may lead to failure in that course.

COURSES REQUIRED FOR A CHEMISTRY MAJOR OR CHEMISTRY MINORS ARE AS FOLLOWS:

1. Major in Chemistry

For students pursuing a major in Chemistry, the following are the required courses:

Level I: CHEM 1060 (C11C) and CHEM 1061 (C11D) - 6 credits each.

Levels II and III: CHEM 2160 (C20A), CHEM 2260 (C20B), CHEM 2360 (C20C), CHEM 2015 (C20D), CHEM 2025 (C20E); and (nine (9) credits from CHEM 3000 (C30) level courses, which should include at least six (6) credits from CHEM 3167 (C30A), CHEM 3267 (C30B), and CHEM 3367 (C30C) - 3 credits each, **plus** the Final Year Research Project CHEM 3660 (C30P) which is four (4) credits.

2. Minor in Chemistry

Level I: CHEM 1060 (C11C) and CHEM 1061 (C11D) - 6 credits each.

Level II: CHEM 2160 (C20A), CHEM 2260 (C20B), CHEM 2360 (C20C) and either CHEM 2015 (C20D), or CHEM 2025 (C20E) - 4 credits each.

3. Minor in Analytical Chemistry

Chemistry majors can also pursue a minor in Analytical Chemistry by taking the following additional courses: CHEM 2460 (C20F), CHEM 3467 (C30F), CHEM 3468 (C31F), CHEM 3467 (C30F) and CHEM 3468 (C31F) are 6 credits each. For these students, only one Research Project CHEM 3660 (C30P) will be required.

4. Electives (which can be used towards the major)

CHEM 3567 (C30G); CHEM 3467 (C30F); CHEM 3168 (C31A); CHEM 3268 (C31B); CHEM 3568 (C31C); CHEM 3269 (C32B); CHEM 3566 (C30E); CHEM 3468 (C31F); CHEM 3569 (C31G).

These courses are all 3 credits except for CHEM 3467 (C30F) and CHEM 3468 (C31F) which are 6 credits each.

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**OPTION I
CHEMISTRY AND MANAGEMENT
2005/2006**

LEVEL I

Banner Code	Fox Pro Code	Title	Credit
ACCT 1002	MS15E	Introduction to Financial Accounting	3
ACCT 1003	MS15F	Introduction to Cost and Mgt. Accounting	3
SOCI 1002	SY13E	Introduction to Sociology I	3
ECON 1001	EC10D	Introduction to Economics I	3
ECON 1005	EC160	Introduction to Statistics	3
CHEM 1060	C11C	Introductory Chemistry I	6
CHEM 1061	C11D	Introductory Chemistry II	6
COMP 1011	CS10M	Introduction to Information Technology	3
TOTAL YEAR I CREDITS			30

LEVEL II

Banner Code	Fox Pro Code	Title	Credit
CHEM 2160	C20A	Main Group Chemistry	4
CHEM 2260	C20B	Organic Chemistry	4
CHEM 2360	C20C	Physical Chemistry	4
CHEM 2015	C20D	Spectroscopy	4
CHEM 2025	C20E	Kinetics & Mechanism	4
MGMT 2008	MS22A	Organisational Behaviour	3
MGMT 2012	MS23C	Quantitative Methods	3
MGMT 2020	MS26A	Managerial Economics	3
MGMT 2021	MS27A	Business Law	3
MKTG 2001	MS20A	Principles of Marketing	3
MGMT 2023	MS28D	Financial Management	3
MGMT 3057	MS39M	Production and Operations Management	3
MGMT 3060	MS39P	Operations Planning and Control	3

c. Nine (9) credits from CHEM 3000 (C30) level courses which must include at least six (6) credits from CHEM 3167 (C30A), CHEM 3267 (C30B) and CHEM 3367 (C30C) **plus** the Final Year Research Project CHEM 3660 (C30P) – 4 credits.

d. Two other Management Studies courses chosen from Level II and III (6 credits).

e. Nine (9) credits of Foundation Courses: FOUN 1101 (FD11A), FOUN 1102 (FD11B), FOUN 1301 (FD13A).

TOTAL DEGREE CREDITS 102

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

DEPARTMENT OF LIFE SCIENCES

Dr. G. Sirju-Charran
(Head)

Ms Christine Commissiong
(Secretary)

Tel: (868) 645-3232 Ext. 3111, 3110
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Grace Sirju-Charran Head, Department
BSc, PhD (UWI) of Life Sciences
Senior Lecturer, Plant Sciences

E.J. Duncan Professor Emeritus (Botany)
BSc (Lond – UCWI),
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J.B. Agard Senior Lecturer, Zoology
BSc (UWI), MSc (Manch.),
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V.J. Bowrin Lecturer, Biochemistry
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I.W. Ramnarine Senior Lecturer, Zoology
BSc (UWI), MSc (Wales),
PhD (UWI), MBA (Heriot-Watt)

C.K. Starr Senior Lecturer, Zoology
BA (Carleton), MA (Kansas),
PhD (Georgia) (Environmental and Natural
Resource Management,
Subject Leader)

P. Umaharan Senior Lecturer, Plant Sciences
BSc (Peradeniya), PhD (UWI)

Mary Alkins-Koo, Lecturer, Zoology
BSc (UWI), MSc (Lond.)
PhD (UWI)

G.F. Barclay, Lecturer, Plant Sciences
BA (Mt Allison), PhD (Aberdeen)

B. Cockburn Lecturer, (Biochemistry,
BSc, PhD (UWI) Subject Leader)

Yasmin Comeau Curator, National Herbarium,
BSc, MPhil. (UWI) Lecturer, Plant Sciences

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D.T. Phillip BSc, M. Phil. (UWI), PhD (St. Andrews)	Lecturer, Zoology	D. D. Chadee BSc (Dalhousie); MPhil. (UWI); PhD, MPH, D.Sc. (Dundee)	Lecturer, Zoology
A. Khan BSc, PhD (UWI)	Lecturer, Plant Sciences (Biology, Subject Leader)	J. Rampersad BSc (UWI) MSc	Lecturer, Life Sciences
M.P. Oatham BSc (Western Aust.), PhD (Kent)	Lecturer Plant Sciences	J. Gobin BSc, MPhil (UWI) PhD (Exeter)	Temporary Lecturer
A. Ramsubhag BSc PhD (UWI)	Lecturer, Plant Sciences	A. Mohammed BSc, PhD (UWI)	Temporary Lecturer
J. Rouse-Miller BSc M. Phil (UWI)	Lecturer, Plant Sciences	Mrs. Deborah Alleyne BSc (UWI)	Administrative Assistant, Life Sciences
A. Hailey BSc (Lond) PhD (Nottingham)	Lecturer, Zoology	Ms. Christine Commissiong	Secretary, Life Sciences
A. Lennon BSc D.Phil (Sussex)	Lecturer, Biochemistry	Ms Monique Dare-Assing	Secretary, Life Sciences
		Ms. Leela Jagdeo	Clerical Assistant, Life Sciences
		Ms. Gail Antoine	Clerical Assistant, Life Sciences

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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The following list indicates courses to be taught in 2005/2006

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2361	BC22A	Biomolecules and Energy Metabolism	4
BIOL 2363	BC23A	Metabolism	4
BIOL 3361	BC33A	Applied Biochemistry	4
BIOL 0061	BL05C	Preliminary Biology I**	0
BIOL 1061	BL11D	Cell Biology & Genetics	6
BIOL 1861	BL11E	Animal Diversity	6
BIOL 1065	BL12A	Diversity of Plants and Animals	4
BIOL 2261	BL28C	Biology of Micro-organisms	4
BIOL 3069	BL33B	Research Project	4
BIOL 3061	BL38C	Molecular Biology	4
BIOL 3865	BL39A	Animal Biotechnology	4
BIOL 3463	BL39B	Pollution and Environmental Management	4
BIOL 2761	BT27A	Plant Physiology	4
BIOL 3765	BT38G	Plant Pathology	4
BIOL 3761	BT31C	Functional Design in Plants	4
BIOL 3763	BT38L	Crop Improvement	4
BIOL 2861	Z 21E	Functional Design in Animals	4
BIOL 2063	Z 23C	Marine Ecology	4
BIOL 2461	Z 24B	Humans and the Environment	4
BIOL 3861	Z 33E	Animal Behaviour	4
BIOL 3863	Z 34E	Tropical Aquaculture	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGRI 2001	AG21C	Tropical Crop Protection	3
BIOL 2362	BC22B	Further Metabolism and Gene Expression	4
BIOL 2364	BC23B	Advanced General Biochemistry	4
BIOL 3364	BC37B	Clinical Biochemistry	4
BIOL 3362	BC38B	Selected Topics in Biochemistry	4
BIOL 0062	BL05D	Preliminary Biology II**	0
BIOL 1764	BL11F	Diversity of Green Plants	6
BIOL 1462	BL11G	General Ecology and Biometry	6
BIOL 2162	BL27B	Advanced Genetics	4
BIOL 3662	BL36B	Evolution and Biosystematics	4
BIOL 3262	BL38J	Microbial Biotechnology	4
BIOL 3762	BT36D	Plant Biotechnology	4
BIOL 3464	BT37E	Tropical Forest Ecology and Management	4
BIOL 3764	BT38E	Economic Botany	4
GENS 3260	NS21B	Gender and Science	4
BIOL 2862	Z 21F	Animal Physiology	4
BIOL 2866	Z 22B	Entomology*	4
		Will not be offered in 2006/07	
BIOL 2062	Z 23B	Freshwater Biology	4
BIOL 3461	Z 31A	Coastal Ecosystem Management	4
BIOL 3062	Z 36B	Conservation Biology	4
BIOL 3864	Z34D	Fisheries, Biology and Management	4
BIOL 2864	Z 22C	Parasitism*	4
		Will not be offered in 2005/2006	

*Offered in alternate years

**Taught by School of Continuing Studies; not counted towards a student's cumulative GPA

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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The following **majors** are offered in the Department of Life Sciences:

MAJORS IN LIFE SCIENCES

Biochemistry
Biology
Zoology
Environmental & Natural Resource Management

N.B. Students can pursue double majors in Biology or choose between any two majors within Life Sciences, except Biology & Zoology. Students can also select a single major in Life Sciences with another major from any other Department within the Faculty or outside the Faculty provided the student has the Prerequisites.

Students majoring in Biology may also elect to do the minors in Botany and/or Zoology

The following **minors** are offered in the Department of Life Sciences:

MINORS

Biochemistry
Biology
Biotechnology
Botany
Marine Biology
Environmental Biology
Zoology
Environmental & Natural Resource Management

Students wishing to elect minors offered from the Department of Life Sciences must have passed the Prerequisites for the courses selected.

MAJORS

The requirements for the various majors in Life Sciences are listed by semester below:

BIOCHEMISTRY MAJOR

Level I Prerequisite Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL1061	BL11D	Cell Biology and Genetics	6
CHEM 1060	C11C	Introductory Chemistry I	6

SEMESTER II

At least one of the following:

Banner Code	Fox Pro Code	Title	Credit
BIOL 1764	BL11F	Diversity of Green Plants	6
BIOL 1462	BL11G	General Ecology and Biometry	6

Level II/III Core Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2361	BC22A	Biomolecules & Energy Metabolism	4
BIOL 2363	BC23A	Metabolism	4
BIOL 3361	BC33A	Applied Biochemistry	4
BIOL 3061	BL38C	Molecular Biology	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 2362	BC22B	Further Metabolism & Gene Expression	4
BIOL 2364	BC23B	Advanced General Biochemistry	4
BIOL 3362	BC38B	Selected Topics in Biochemistry	4

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Electives for the Biochemistry Major (4 credits)

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 3069	BL33B	Research Project	4
BIOL 3865	BL39A	Animal Biotechnology	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 3069	BL33B	Research Project	4
BIOL 3364	BC37B	Clinical Biochemistry	4
BIOL 3262	BL38J	Microbial Biotechnology	4

BIOLOGY MAJOR

Level I Prerequisite Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL1061	BL11D	Cell Biology and Genetics	6
BIOL 1861	BL11E	Animal Diversity	6

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 1764	BL11F	Diversity of Green Plants	6
BIOL 1462	BL11G	General Ecology and Biometry	6

Level II/III Core Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2361	BC22A	Biomolecules and Energy Metabolism	4
BIOL 2261	BL28C	Biology of Micro-organisms	4
BIOL 2761	BT27A	Plant Physiology	4
BIOL 3061	BL38C	Molecular Biology	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 2162	BL27B	Advanced Genetics	4
BIOL 2862	Z21F	Animal Physiology	4
BIOL 3662	BL36B	Evolution & Biosystematics	4
BIOL 3062	Z 36B	Conservation Biology	4

Electives for Biology Double

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 3069	BL33B	Research Project	4
BIOL 3865	BL39A	Animal Biotechnology	4
BIOL 3763	BT38L	Crop Improvement	4
BIOL 2063	Z23C	Marine Ecology	4
BIOL 2461	Z24B	Humans & the Environment	4
BIOL 3863	Z34E	Tropical Aquaculture	4
BIOL 2861	Z21E	Functional Design in Animals	4
BIOL 3761	BT31C	Functional Design in Plants	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 3069	BL33B	Research Project	4
BIOL 3262	BL38J	Microbial Biotechnology	4
BIOL 3762	BT36D	Plant Biotechnology	4
BIOL 2062	Z23B	Freshwater Biology	4
BIOL 3864	Z34D	Fisheries Biology & Management	4
BIOL 3464	BT37E	Tropical Forest Ecology and Management	4
BIOL 3461	Z31A	Costal Ecosystems Management	4

ZOOLOGY MAJOR

Level I Prerequisite Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL1061	BL11D	Cell Biology and Genetics	6
BIOL 1861	BL11E	Animal Diversity	6

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 1462	BL11G	General Ecology and Biometry	6

Level II /III Core Courses:

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2861	Z21E	Functional Design in Animals	4
BIOL 3861	Z33E	Animal Behaviour	4

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SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 2862	Z21F	Animal Physiology	4
BIOL 3662	BL36B	Evolution & Biosystematics	4

Electives for Zoology Major (16 credits)

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 3069	BL33B	Research Project	4
BIOL 2063	Z23C	Marine Ecology	4
BIOL 2461	Z24B	Humans & the Environment	4
BIOL 3863	Z34E	Tropical Aquaculture	4
BIOL 3461	Z31A	Coastal Ecosystem Management	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 3069	BL33B	Research Project	4
BIOL 3062	Z 36B	Conservation Biology	4
BIOL 2062	Z23B	Freshwater Biology (limited to 60 students)	4
BIOL 3864	Z34D	Fisheries Biology & Management	4
BIOL 2866	Z 22B	Entomology	4
BIOL 2864	Z22C	Parasitism not offered in 2005/06	4
BIOL 3464	BT37E	Tropical Forest Ecology and Management	4

ENVIRONMENTAL & NATURAL RESOURCE

MANAGEMENT MAJOR

**With contributions from the Departments of Food
Production and Agricultural Economics & Extension**

Level I Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 1065	BL12A	Diversity of Plants and Animals	4
AGBU 1005	AM15A	Introduction to Microeconomics	3
AGRI 1012	AG10A	Microbiology	3
AGSL 1000	AS16B	Soils and the Environment	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 1462	BL11G	General Ecology & Biometry	6
AGBU 1002	AM17B	Intro. to Agro-Environmental Management	4

Level II/III Core Courses

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2461	Z24B	Humans & the Environment	4
AGSL 3004	AS34D	Integrated Watershed Management	4
BIOL 3463	BL39B	Pollution and Environmental Management	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGSL 3002	AS33D	Soil Survey & Land Evaluation	4
BIOL 3464	BT37E	Tropical Forest Ecology & Management	4
BIOL 3062	Z36B	Conservation Biology	4

Electives

**or Environmental & Natural Resources management
Major**

(Any 8 credits from the following)

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2063	Z23C	Marine Ecology	4
BIOL 3069	BL33B	Research Project	4
AGBU 3010	AM39A	Environmental Economics	4
AGBU 3000	AM33D	Introduction to Ecotourism	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 2062	Z23B	Freshwater Biology	4
BIOL 3461	Z31A	Coastal Ecosystem Management	4
BIOL 3864	Z34D	Fisheries Biology & Management	4
AGEX 2001	AX25B	Operations and Management of Extension Programmes	4
CHEM 3560	C30E	Environmental Chemistry	3
AGRI 2001	AG39A	Climate Change Impact and Management	4

- Students wishing to double major in Environmental & Natural Resource Management and Biology should register for the four introductory Life Sciences courses: BIOL1061 (BL11D), BIOL1861 (BL11E), BIOL1764 (BL11F), and BIOL1462 (BL11G) in addition to AGSL1000 (AS16B) Soils and the Environment, AGBU1002 (AM17B) Introduction to Agro-Environmental Management and AGBU1005 (AM15A) Introduction to Microeconomics.

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Students wishing to double major in Zoology and Environmental & Natural Resource Management should register for AGRI1012 (AG10A) Microbiology, AGSL1000 (AS16B), AGBU1002 (AM17B), AGBU1005 (AM15A) in addition to BIOL1061 (BL11D), BIOL1861 (BL11E), BIOL1764 (BL11F) and BIOL1462 (BL11G).

We recommend that AGRI1012 (AG10A) be done in Semester I Year 2.

MINORS

Note: Research projects BIOL 3069 (BL33B) or AGRI 3013 (AG313) done under a relevant area mabe considered towards the minor in that discipline.

BIOCHEMISTRY MINOR (16 Credits)

SEMESTER 1

Core:

Banner Code	Fox Pro Code Title	Credit
BIOL 2361	BC22A Biomolecules & Energy Metabolism	4
BIOL 2363	BC23A Metabolism	4

Electives:

Banner Code	Fox Pro Code Title	Credit
BIOL 3361	BC33A Applied Biochemistry	4
BIOL 3061	BL38C Molecular Biology	4

SEMESTER II

Electives:

Banner Code	Fox Pro Code Title	Credit
BIOL 2362	BC22B Further Metabolism and Gene Expression	4
BIOL 2364	BC23B Advanced General Biochemistry	4
BIOL 3364	BC37B Clinical Biochemistry	4
BIOL 3362	BC38B Selected Topics in Biochemistry	4

BIOLOGY MINOR

Any 16 Credits from the following courses:

SEMESTER 1

Banner Code	Fox Pro Code Title	Credit
BIOL 2761	BT27A Plant Physiology	4

Electives:

BIOL 2261	BL28C Biology of Micro-organisms	4
BIOL 3061	BL38C Molecular Biology	4
BIOL 2361	BC22A Biomolecules and Energy Metabolism	4

SEMESTER II

Core:

Banner Code	Fox Pro Code Title	Credit
BIOL 2862	Z 21F Animal Physiology	4

Electives:

BIOL 2162	BL27B Advanced Genetics	4
BIOL 3662	BL36B Evolution and Biosystematics	4
BIOL 3062	Z 36B Conservation Biology	4

BOTANY MINOR

Any 16 Credits from the following courses:

SEMESTER 1

BIOL 2761	BT27A Plant Physiology	4
BIOL 3763	BT38L Crop Improvement	4
BIOL 3761	BT31C Functional Design in Plants	4
BIOL 3765	BT38G Plant Pathology	4

SEMESTER II

BIOL 3762	BT36D Plant Biotechnology	4
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**ENVIRONMENTAL & NATURAL RESOURCES
MANAGEMENT MINOR**

(Any 16 credits from the following courses)

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2461	Z24B	Humans & the Environment	4
AGSL 3004	AS34D	Integrated Watershed Management	4
BIOL 3463	BL39B	Pollution and Environmental Management	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
AGSL 3002	AS33D	Soil Survey & Land Evaluation	4
BIOL 3464	BT37E	Tropical Forest Ecology & Management	4
BIOL 3062	Z 36B	Conservation Biology	4

ZOOLOGY MINOR

(Any 16 Credits from the following courses).

SEMESTER 1

Banner Code	Fox Pro Code	Title	Credit
BIOL 2861	Z 21E	Functional Design in Animals	4
BIOL 3861	Z 33E	Animal Behaviour	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 2862	Z 21F	Animal Physiology	4
BIOL 3662	BL36B	Evolution and Biosystematics	4
BIOL 2866	Z 22B	Entomology	4
BIOL 2864	Z 22C	Parasitism	4

BIOTECHNOLOGY MINOR

(Any 16 Credits from the following courses)

SEMESTER 1

Banner Code	Fox Pro Code	Title	Credit
BIOL 3061	BL38C	Molecular Biology	4
BIOL 3865	BL39A	Animal Biotechnology	4
BIOL 3763	BT38L	Crop Improvement	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 3262	BL38J	Microbial Biotechnology	4
BIOL 3762	BT36D	Plant Biotechnology	4

MARINE BIOLOGY MINOR (16 Credits)

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2063	Z 23C	Marine Ecology	4
BIOL 3863	Z 34E	Tropical Aquaculture	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 3461	Z 31A	Coastal Ecosystem Management	4
BIOL 3864	Z34D	Fisheries, Biology and Management	4

ENVIRONMENTAL BIOLOGY MINOR

(Any 16 Credits from the following courses)

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
BIOL 2063	Z 23C	Marine Ecology	4
BIOL 2461	Z 24B	Humans and the Environment	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
BIOL 2062	Z 23B	Freshwater Biology	4
BIOL 3062	Z 36B	Conservation Biology	4
BIOL 3464	BT37E	Tropical Forest Ecology and Management	4

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

**DEPARTMENT OF
MATHEMATICS
& COMPUTER SCIENCE**

Dr. S. Wahid
(Head)

Ms. S. Mohammed
(Administrative Assistant)

Mrs. D. Adams-Carrington
(Secretary)

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B. Bhatt BSc, MSc, PhD (University of Rajasthan), FIMA	Professor Mathematics
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E. J. Farrell BSc UWI, M.Math, PhD Wat, FTICA	Professor, Mathematics
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Ch. Posthoff Dip.-Math., Dr. rer. nat., University Leipzig., Dr.-Ing. habil., University Chemnitz	Professor, Computer Science
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H. Ramkissoon BSc (UWI), MSc (Tor), PhD (Calg)	Professor, Applied Mathematics
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H. Ali B.A. (UWI), MSc (Lond), MPhil. (Sus), PhD (UWI)	Senior Lecturer, Mathematics
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N. Kalicharan BSc (UWI), MSc (Br Col), PhD (UWI)	Senior Lecturer, Computer Science
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M. Bernard BSc, MPhil., PhD, (UWI)	Lecturer, Computer Science
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UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

M. Hosein BSc, MPhil. (UWI), M.C.S.E., MCP + I	Lecturer, Computer Science	C. de Matas BSc, MPhil. (UWI), M.A. (Pgh), PhD (UWI)	Lecturer, Mathematics
B. Iordanova B. Eng (Varna) PhD (Huddersfield, Cambridge)	Lecturer, Computer Science	K. Rahaman BSc, PhD (UWI)	Lecturer, Mathematics
P. Mohan BSc (UWI), MSc (Sask), PhD (UWI)	Lecturer, Computer Science	A. Shirley BSc, (UWI), MSc, PhD (Northeastern)	Lecturer, Mathematics
C. Ward BSc (UWI), MSc (Sus), PhD (Essex)	Lecturer, Computer Science	R. Devenish BSc, MPhil. (UWI)	Assistant Lecturer, Computer Science
S. Yussuff BSc (UG), MSc (Surrey), MSc (Lond)	Lecturer, Computer Science	A. Mohais BSc, MPhil. (UWI)	Assistant Lecturer, Computer Science
R. Antoine BSc, MSc (UWI), M.S., PhD (FSU)	Lecturer, Mathematics	Mrs. D. Adams-Carrington	Secretary
		Ms. N. Hazelwood	Clerical Assistant
		Ms. C. Hutchinson	Clerical Assistant (on secondment)

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

COMPUTER SCIENCE

MAJOR/DOUBLE MAJOR IN COMPUTER SCIENCE

The requirements for a major in Computer Science are:-

For the major, students are required to take the 6 core courses (24 credits) which include COMP 2000, COMP 2100, COMP 2200, COMP 2500, COMP 3000 and COMP 3100 plus another 8 Level II/III credits, for a total of 32 credits.

For the double major, students are required to take 64 credits in Computer Science courses including the core courses.

MINOR IN COMPUTER SCIENCE

Students are required to take the 2 core courses COMP 2000 and COMP 2500 plus any 2 of the following courses COMP 2200, COMP 2700, COMP 3000, COMP 3100, COMP 3150 and COMP 3250.

COMPUTER SCIENCE

The following courses are likely to be taught in 2005/2006:

SEMESTER I

Level I

Banner Code	Fox Pro Code	Title	Credit
COMP 1011	CS10M	Introduction to Information Technology	3
COMP 1100	CS11E	Computer Programming I	6
COMP 1200	CS11F	Computer Programming II	6

Level II/III

Banner Code	Fox Pro Code	Title	Credit
COMP 2000	CS20A	Data Structures	4
COMP 2100	CS20E	Discrete Mathematics for Computer Science	4
COMP 2200	CS21E	Computer Architecture	4
COMP 2300	CS22A	Programming for Business Applications	4
COMP 2600	CS25E	Theory of Computing I	4
COMP 2700	CS27E	Database Management Systems I	4
COMP 3400	CS33B	Artificial Intelligence	4
COMP 3300	CS33E	Programming Languages I	4
COMP 3500	CS34M	Internet Technologies I	4
COMP 3750	CS37A	Numerical Computing	4

SEMESTER II

Level I

Banner Code	Fox Pro Code	Title	Credit
COMP 1011	CS10M	Introduction to Information Technology	3
COMP 1100	CS11E	Computer Programming I	6
COMP 1200	CS11F	Computer Programming II	6

Level II/III

COMP 2000	CS20A	Data Structures	4
COMP 2100	CS20E	Discrete Mathematics for Computer Science	4
COMP 2400	CS22B	Information Systems	4
COMP 2500	CS24E	Object-Oriented Programming	4
COMP 3000	CS30E	Design and Analysis of Algorithms	4
COMP 3100	CS31A	Operating System	4
COMP 3150	CS32A	Computer Networks	4
COMP 3250	CS32F	Software Engineering	4
COMP 3350	CS33F	Programming Languages II	4
COMP 3550	CS34N	Internet Technologies II	4
COMP 3600	CS35E	Theory of Computing II	4
COMP 3700	CS37E	Database Management Systems II	4
COMP 3900	CS39A	Special Topics in Computer Science (Expert Systems)	4

Engineering

Banner Code	Fox Pro Code	Title	Credit
	CS22E	Fundamentals of Information Systems Development	

Students reading courses in Mathematics and Computer Science in the Faculty of Science & Agriculture are advised to clear with the Head, Department of Mathematics & Computer Science, before registering for any course in the Faculty of Social Sciences that involves Mathematics, Computing or Statistics.

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006 The Faculty of Science & Agriculture

MATHEMATICS

MATH 3430	M 34E	Advanced Algebra I – Theory	4
MATH 3450	M 35A	Statistical Theory I	4

MAJOR IN MATHEMATICS

Students are required to take 4 core courses in MATH 2100, MATH 2110, MATH 2120, MATH 2160 and acquire sixteen (16) credits from other advanced courses in Mathematics. At least 8 of these 16 credits must be from Year 3 Mathematics courses.

Engineering

Banner Code	Fox Pro Code	Title	Credit
MATH 1170	M 17A	Engineering Mathematics I**	6
MATH 2230	M 26A	Engineering Mathematics II	6
MATH 3530	M 37A	Engineering Mathematics	6

DOUBLE MAJOR IN MATHEMATICS

Students are required to take 64 credits from Advanced Level Mathematics courses including MATH 2100, MATH 2110, MATH 2120 and MATH 2160. At least 32 credits must be from Year 3 Mathematics courses.

SEMESTER II

Level 0/I Courses

Banner Code	Fox Pro Code	Title	Credit
MATH 0110	M08C	Calculus & Analytical Geometry	6
MATH 1150	M 12B	Functions of Real Variables	6
MATH 1170	M 15B	Introductory Applied Mathematics II	6

***Taught by School of Continuing Studies; not counted towards a student's cumulative GPA*

Level II/III

Banner Code	Fox Pro Code	Title	Credit
MATH 2110	M 20B	Linear Algebra	4
MATH 2160	M 21B	Analysis & Mathematical Methods II	4
MATH 2180	M 24B	Introduction to Optimisation	4
MATH 2150	M 25B	Introduction to Statistics	4
MATH 2190	M 25C	Probability and Statistics I	4
MATH 2220	M 29B	Introduction to Actuarial Mathematics	4
MATH 3120	M 31B	Mathematical Statistics – Statistical Inference	4
MATH 3290	M 34A	Combinatorics	4
MATH 3440	M 34F	Advanced Algebra II – Applications	4
MATH 3460	M 35B	Statistical Theory II	4
MATH 3500	M 36C	Complex Analysis	4

MATHEMATICS

The following courses are likely to be taught in 2005/2006:

SEMESTER I

Level 0/I Courses

Banner Code	Fox Pro Code	Title	Credit
MATH 0100	M08B	Pre-Calculus**	6
MATH 1140	M12A	Basic Introductory Mathematics	6
MATH 1160	M 15A	Introductory Applied Mathematics I	6

Levels II/III Courses

Banner Code	Fox Pro Code	Title	Credit
MATH 2100	M 20A	Abstract Algebra	4
MATH 2120	M 21A	Analysis & Mathematical Methods I	4
MATH 2170	M 24A	Introduction to Combinatorics	4
MATH 2140	M 25A	Introduction to Probability	4
MATH 2190	M 25C	Probability and Statistics I	4
MATH 2210	M 29A	Mathematics of Finance	4
MATH 3110	M 31A	Mathematical Statistics – Probability Theory	4
MATH 3240	M 31S	Real Analysis	4
MATH 3250	M 33A	Fluid Dynamics I	4
MATH 3280	M33D	Introduction to Mathematical Modelling I	4
MATH 3400	M 34B	Graph Theory	4

Engineering

Banner Code	Fox Pro Code	Title	Credit
MATH 2240	M 26B	Engineering Statistics	4
MATH 2250	M 26C	Industrial Statistics	4

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OPTION II

COMPUTER SCIENCE AND MANAGEMENT

Note:

- (1) **Acceptance for the Computer Science and Management option does not guarantee acceptance for courses in the Faculty of Social Sciences other than those specified in this option.**
- (2) **Students are advised that, in choosing courses from the Faculty of Social Sciences, the regulations from that Faculty will apply. In particular, credit will not be given for two courses which the Faculty of Social Sciences designates as having 'substantial overlap.' E.g. EC20B and MS26A.**

Level I courses

Banner Code	Fox Pro Code	Title	Credit
COMP 1100	CS11E	Computer Programming I	6
COMP 1200	CS11F	Computer Programming II	6
ECON 1001	EC10D	Introduction to Economics I	3
ECON 1002	EC10F	Introduction to Economics II	3
ACCT 1010	MS15E	Introduction to Financial Accounting	3
ACCT 1011	MS15F	Introduction to Cost & Management Accounting	3
MATH 1140	M 12A	Basic Introductory Mathematics	6
MATH 1150	M 12B	Functions of Real Variables	6
			36

Level II/III courses

Banner Code	Fox Pro Code	Title	Credit
COMP 2000	CS20A	Data Structures	4
COMP 2100	CS20E	Discrete Mathematics for Computer Science	4
COMP 2200	CS21E	Computer Architecture	4
COMP 2300	CS22A	Programming for Business Applications	4
COMP 2500	CS24E	Object -Oriented Programming	4
COMP 2700	CS27E	Database Management Systems I	4
COMP 3000	CS30E	Design and Analysis of Algorithms	4
COMP 3100	CS31A	Operating Systems	4
			32

Banner Code	Fox Pro Code	Title	Credit
MKTG 2080	MS20A	Principles of Marketing	3
MGMT 2014	MS22A	Organisational Behaviour	3
MGMT 2020	MS26A	Managerial Economics	3
MGMT 2021	MS27A	Business Law	3
and one from			
MGMT 2018	MS23C	Quantitative Methods	3
ACCT 2043	MS25C	Management Accounting	3
FINM 2060	MS28D	Financial Management	3
MKTG 3140	MS30A	Marketing Management	3
			15
3.	A minimum of thirteen (13) credits chosen from Level II/III Computer Science, Mathematics and Economics courses		13
4.	Foundation Courses		
FOUN 1102 (FD11B)	Academic Writing for Different Disciplines		3
FOUN 1301 (FD13A)	Law, Governance, Economy and Society		3
FOUN 1101 (FD11A)	Caribbean Civilisation		3
TOTAL DEGREE CREDITS			105

NOTE: Students majoring in Computer Science and those registered in the Computer Science and Management option must seek the approval of the department to read Computing and Mathematics courses outside of the FSA.

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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DEPARTMENT OF PHYSICS

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Dr. A. H. Tang Kai BSc, MSc. (UWI) PhD. (Uppsala)	Senior Lecturer
Dr. A. Achong BSc, PhD (UWI)	Senior Lecturer
Dr. I. Haraksingh BSc, PhD (UWI)	Lecturer
Dr. R. Andrews BSc, PhD (Lond.)	Lecturer
Mr. R. Clarke BSc, M. Phil. (UWI)	Lecturer
Dr. K. De Souza BSc, MSc, (UWI) PhD (Southampton)	Lecturer
Dr. S. Haque BSc, MPhil., PhD (UWI)	Lecturer
Dr. J.C. Knight BSc (UWI) PhD (Camb.)	Senior Lecturer
Dr. H. P. S. Missan BSc, MSc, PhD (Dev)	Lecturer
Mrs. C. Charles	Admin Assistant
Mrs. S. Perai	Secretary

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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PHYSICS

The following list indicates courses to be taught in 2005/2006

SEMESTER I

Banner Code	Fox Pro Code	Title	Credit
PHYS0070	P07A	Preliminary Physics I*	0
PHYS1110	P11A	Introductory Physics I	6
PHYS2280	P28A	Mathematical Methods in Physics	4
PHYS2281	P28B	Modern Physics I	4
PHYS2290	P29A	Introduction to Medical Physics and Bioengineering	4
PHYS2291	P29B	Digital Electronics	4
PHYS2292	P29C	Meteorology, Climatology and Pollution	4
PHYS2294	P29E	Materials Science	4
PHYS3382	P38C	Electronics and Control Theory	4
PHYS3385	P38F	Electromagnetism Theory & Applications	4
PHYS3387	P38P	Research Project (for Physics Majors)	4
PHYS3390	P39A	Further Medical Physics and Bioengineering II	4
PHYS3392	P39C	Physical Oceanography and Geohydrology	4
PHYS3396	P39G	Ceramics	4

SEMESTER II

Banner Code	Fox Pro Code	Title	Credit
PHYS0071	P07B	Preliminary Physics II*	0
PHYS1111	P11B	Introductory Physics II	6
PHYS2282	P28C	Circuit Theory and Electronics	4
PHYS2283	P28D	Oscillation, Waves and Optics	4
PHYS2293	P29D	Fundamentals of Geophysics	4
PHYS2295	P29F	Lasers and Solar Energy	4
PHYS3381	P38B	Modern Physics II	4
PHYS3383	P38D	Optics and Astronomy	4
PHYS3384	P38E	Thermodynamics and Solid State Physics	4
PHYS3391	P39B	Further Digital Electronics and Microprocessor Systems	4
PHYS3393	P39D	Earth Materials, Earth Processes and Seismology	4
PHYS3394	P39E	Further Materials Science	4
PHYS3395	P39F	Thin Films and Vacuum Physics	4

**Taught by School of Continuing Studies; not counted towards a student's cumulative GPA*

- Note:**
1. PHYS2292 (P29C) with PHYS2293 (P29D) and PHYS3392 (P39C) with PHYS3393 (P39D) are offered in alternate years. In the year 2005/2006 PHYS2292 (P29C) and PHYS2293 (P29D) will be offered.
 2. PHYS2290 (P29A) and PHYS3390 (P39A) are offered in alternate years. PHYS3390 (P39A) will be offered in the year 2005/2006.
 3. PHYS3395 (P39F) will not be offered in 2005/2006.
 4. Students reading PHYS2294 (P29E), cannot read CH13A listed in Appendix IV.
 5. Students repeating P28 and P29 courses may be permitted, after a departmental interview, to read appropriate P38 and P39 courses at the same time.

MAJOR IN PHYSICS

Level I Prerequisites

Banner Code	Fox Pro Code	Title	Credit
PHYS1110	P11A	Introductory Physics I	6
PHYS1111	P11B	Introductory Physics II	6

Level II/III

Banner Code	Fox Pro Code	Title	Credit
PHYS2280	P28A	Mathematical Methods in Physics I	4
PHYS2281	P28B	Modern Physics I	4
PHYS2283	P28D	Oscillation, Waves and Optics	4
PHYS3385	P38F	Electromagnetism Theory & Applications	4
PHYS3387	P38P	Research Project (available to Physics majors only)	4

And any three of:

Banner Code	Fox Pro Code	Title	Credit
PHYS2282	P28C	Circuit Theory and Electronics	4
PHYS3381	P38B	Modern Physics II	4
PHYS3383	P38D	Optics and Astronomy	4
PHYS3384	P38E	Thermodynamics and Solid State Physics	4

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MINORS

Electronics

Banner Code	Fox Pro Code	Title	Credit
PHYS2291	P29B	Digital Electronics	4
PHYS3382	P38C	Electronics & Control Theory	4
PHYS2282	P28C	Circuit Theory and Electronics	4
PHYS3391	P39B	Further Digital Electronics & Microprocessor Systems-	4

Medical Physics and Bioengineering

Banner Code	Fox Pro Code	Title	Credit
PHYS2290	P29A	Introduction to Medical Physics and Bioengineering	4
PHYS2291	P29B	Digital Electronics	4
PHYS3391	P39B	Further Digital Electronics & Microprocessor Systems	4
PHYS3390	P39A	Further Medical Physics and Bioengineering	4

Environmental Physics

Any four of:

Banner Code	Fox Pro Code	Title	Credit
PHYS2292	P29C	Meteorology, Climatology and Pollution	4
PHYS2293	P29D	Fundamentals of Geophysics	4
PHYS2295	P29F	Lasers and Solar Energy	4
PHYS3392	P39C	Physical Oceanography and Geohydrology	4
PHYS3393	P39D	Earth Materials, Earth Processes and Seismology	4

Materials Science

Any four of:

Banner Code	Fox Pro Code	Title	Credit
PHYS2294	P29E	Materials Science	4
PHYS2295	P29F	Lasers and Solar Energy	4
PHYS3394	P39E	Further Materials Science	4
PHYS3396	P39G	Ceramics	4
PHYS3395	P39F	Thin Films and Vacuum Physics	4

FACULTY OF SCIENCE & AGRICULTURE

ALPHABETICAL LISTING OF COURSES BY COURSE CODES

ACCT 1010 (MS15E) INTRODUCTION TO FINANCIAL ACCOUNTING (3 credits)

Syllabus:

An introductory course designed for students of accounting and those in other areas of study. It aims at producing a practical and a theoretical understanding of the principles and concepts involved in the preparation of financial statements. Students are exposed to conceptual analytical thinking and communicative skills.

Assessment:

Coursework 25%

Examination 75%

ACCT 1011 (MS15F) INTRODUCTION TO COST & MANAGERIAL ACCOUNTING (3 credits)

Prerequisite: None

Co-requisite: ACCT 1010 (MS15E)

Syllabus:

This is an introductory course for students of accounting as well as other areas of study. It aims to acquaint them with the uses of accounting information and techniques useful to the manager in planning, decision-making and controlling organisational activities.

Assessment:

Coursework 25%

Examination: 75%

ACCT 2043 (MS25C) MANAGEMENT ACCOUNTING (3 credits)

Prerequisites: ACCT 1010, ACCT 1011 (MS15E, MS15F)

Syllabus:

The course explains how managerial accounting information is used by managers in manufacturing, retail, service and not-for-profit organisations to anticipate the future and monitor the activities of the business.

Assessment:

Coursework

Final Examination

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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AGBU 1002 (AM17B)
**INTRODUCTION TO AGRO-
ENVIRONMENTAL MANAGEMENT**
(4 credits)

Co-requisites: AGBU/AGEC 1000 (AM15A)

Syllabus:

The role and importance of the environment for social development and as a life support system. The nexus between agriculture and the environment. Agro-ecosystems structure and dynamics.

Economics of environmental resources: market failure and environmental degradation, externalities and public goods; optimal resource use/extraction and approaches for management of renewable resources.

Concept of the watershed as a management unit: hydrology, soils, natural forest, biodiversity and land use. The impact of agricultural practices on the environment viewed from an ecosystem perspective: deforestation, soil erosion/degradation, flooding, irrigation, loss of biodiversity and climate change. Case studies of impacts related to various agricultural systems: crop and livestock, subsistence and plantation farming, hillside and erodable soils, pesticide and chemical application, irrigated agriculture.

Integration of the concepts and issues discussed in designing sustainable agro-environmental systems for the tropics; focus on small island states. Case studies.

Assessment:

Coursework	25%
Final Examination	75%

AGBU 1005 (AM15A)
INTRODUCTION TO MICROECONOMICS
(3 credits)

Syllabus:

Nature and Scope of Economics: General overview: Functions performed by economic systems; Resources/Factors of Production and Characteristics.

Demand and Supply: Concepts; definitions and introduction to factors affecting demand and supply; elasticities. Market Price and Quantity determination; interpretation and applications.

Theories of Consumer Behaviour: Marginal utility and indifference theories, Theory of Production, Supply and Cost: Production functions forms; profit maximization behaviour and rationality in production. Market Structures and Forms: Market types and characteristics; profit maximization behaviour in perfect competition and monopoly.

Assessment:

Coursework	25%
Final Examination	75%

AGBU 1006 (AM15B)
**MACROECONOMIC FUNDAMENTALS FOR
CARIBBEAN AGRICULTURE**
(3 credits)

Syllabus:

This course will build on the microeconomic foundation of the behaviour of the consumer and the firm to the establishment of demand and supply for the entire country which includes that of government and the rest of the world. Students would then learn how to measure the progress of the economy, and determine the national income and gross domestic product. Next, the role of monetary and fiscal policy on inflation, unemployment, deficits and economic growth will be studied. And finally the Caribbean economy and agricultural sector will be integrated into the international setting, examining the concepts of free trade and the role of exchange rate. The role of international trade and agriculture as it relates to the economy are clearly articulated.

Assessment:

Coursework	25%
Final Examination	75%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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AGBU 2000 (AM21A)
AGRICULTURE IN THE ECONOMY
(4 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B)

Syllabus:

The structure of Caribbean economies. Simple income determination. Balance of payments. Economic growth models. Theories of economic development. The role of the agricultural sector in the development process. Agricultural policy formulation. Selected policy issues.

Assessment:

Coursework 20%

Final Examination 80%

AGBU 2002 (AM23B)
MANAGEMENT AND ECONOMICS OF
AGRICULTURAL PRODUCTION AND
MARKETING
(4 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B)

Syllabus:

Basic theory of agricultural production with particular respect to technology and economic and technical efficiency in resource use. The basic theory of the consumer. The nature and scope of marketing. The functions of marketing intermediaries. The inimization of agricultural markets in the Caribbean. Basic concepts in the management of farms and agri-business firms. Managerial functions. Forms of business inimization. Accounting and record keeping systems. Personnel management.

Assessment:

Coursework (midterm) 20%

Final Examination 80%

AGBU 2003 (AM25A)
APPLIED STATISTICS
(3 credits)

Prerequisite: AG14C

Syllabus:

This is an introductory course in Statistics with the aim of having students appreciate the role of Statistics in Agribusiness, Agricultural Economics and related fields as a fundamental tool of scientific investigation. The course introduces students to basic concepts and definitions in statistics, including descriptive statistics, probability distribution theory and the Normal Statistical Distribution. The method for the conduct of Statistical Inference is presented, including inference relating to a single population, differences between population means and the analysis of variance. The course concludes with a study of regression analysis.

Assessment:

Coursework 40%

Final Examination 60%

AGBU 3000 (AM30C)
FARM BUSINESS MANAGEMENT
(4 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B), AGBU 2002 (AM23B) or AGBU 2000 (AM21A)

Syllabus:

Management Styles and Strategies. Decision Making in Agri-business. The Agri-business System. Competitive Analysis and Strategic Planning with particular reference to Agro industry. Cooperatives and other Organisational Forms. Business Control and Analysis. Management of Factors of Production.

Assessment:

Coursework 20%

Final Examination 80%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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AGBU 3001 (AM32A)
MARKETING AND PRICE ANALYSIS
(4 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B),
AGBU 2000 (AM21A)

Syllabus:

The management of agricultural marketing. International trade in agricultural commodities. Regional trading arrangements. Methods of price analysis including forecasting.

Assessment:

Coursework	20%
Final Examination	80%

AGBU 3002 (AM32D)
INTERNATIONAL MARKETING OF
AGRICULTURAL PRODUCTS
(4 credits)

Prerequisite: AGBU (AM32B) and AGBU 1005 (AM15A),
AGBU 1006 (AM15B) or Introductory Economics

Syllabus:

International Marketing; Institutions and Regulatory Framework; International Marketing Environment; International Market Entry Strategies, Exporting and Importing.

This course provides an understanding of the important concepts and issues involved in international marketing of agricultural products. Emphasis is given to the challenges Caribbean agri-businesses will face in the contemporary international business arena and the development/examination of options for successfully penetrating targeted international markets.

Assessment:

Coursework	40%
Final Examination	60%

AGBU 3003 (AM33D)
INTRODUCTION TO ECOTOURISM:
PRODUCT DESIGN & MANAGEMENT
(4 credits)

Prerequisite: No prerequisites

Syllabus:

This course examines the way in which ecotourism could be designed and developed as a viable business opportunity, and as a contributor to sustainable development in the Caribbean. By the end of the course you should be able to define the concept within a framework of social and economic development. This goal will be achieved by taking you through the various components of eco-tourism, highlighting in particular, the business potential of the concept.

In this course, you will be supplied with tools to make practical decisions related to an ecotourism venture. No matter what your background maybe, you will find the concepts and perspectives contained in this course empower you to use ecotourism for more positive development. The material is developed with the specific needs of tropical small island states in mind.

Assessment:

Coursework	30%
Final Examination	70%

AGBU 3004 (AM34A)
AGRICULTURAL FINANCE & FARM CREDIT
(3 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B)

Syllabus:

Capital requirements of Caribbean agriculture. Financial management of farm-firms. Financial markets and their operations. Investment principles in relation to application for processing of farm credit. Evaluation of agricultural credit programmes.

Assessment:

Coursework	20%
Final Examination	80%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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AGBU 3005 (AM35B)
**INTRODUCTION TO QUANTITATIVE
METHODS IN ECONOMICS**
(3 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B),
AGRI 1003 (AG14C)

Syllabus:
Review of functional relationships, basic calculus and matrix algebra. Methods in economic research. Regression models, basic linear programming concepts. Decision-making in profit minimization and cost minimization problems. Computer applications.

Assessment:

Coursework	30%
Final Examination	70%

AGBU 3006 (AM36A)
**AGRICULTURAL PROJECT APPRAISAL &
IMPLEMENTATION**
(4 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B)

Syllabus:
The nature of project appraisal and its role in planning. Financial analysis techniques, benefit cost analysis. Project implementation techniques. Application to cases.

Assessment:

Coursework	25%
Final Examination	75%

AGBU 3007 (AM37A)
**NEW VENTURE CREATION AND
MANAGEMENT**
(4 credits)

Prerequisite: AGBU 1005 (AM15A), AGBU 1006 (AM15B),
MS15E

Syllabus:
The "hands-on" tools and techniques for launching and managing a sustainable small business. Frameworks and guidelines that can be used to formulate strategies relevant in the contemporary business environment. Emphasis will be placed on real world application of business theory through the building of an effective business plan, case study analysis and interaction with entrepreneurs.

Assessment:

Coursework	40%
Examination	60%

AGBU 3008 (AM39C)
INTERNSHIP
(4 credits)

Prerequisite: AGRI 2000 (AG133), AM30C

Syllabus:
Ten-week attachment to an agri-business firm to gain practical experience and training in an agri-business environment.

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGBU 3009 (AM32E)
INTERNATIONAL TRADE POLICY AND REGULATIONS
(3 credits)

Prerequisites:

Syllabus:

AM 32E International Trade Policy and Regulations
This course covers agricultural and food policies from domestic and international trade perspectives. Course examines the role of international trade in agricultural development; current debates about the effects of globalization on developing countries; evolution of trade policies in the context of the Uruguay Round GATT Agreement and the WTO, the Lome Convention, Regional and Bilateral trade agreements and arrangements. Course also examines the Agreement on Agriculture and Sanitary and Phytosanitary Measures and international regulations as well as emerging trade agreements with implications for agriculture (Economic Partnership Agreements, Commodity Protocols and Special Trading Arrangements) and gives an introduction to trade negotiations.

Assessment:

Coursework 75%

Final Examination 25%

Not Offered In 2005/06

AGBU 3010 (AM39A)
ENVIRONMENTAL ECONOMICS
(4 credits)

Prerequisites: AGBU 1005 (AM15A), AGBU 1006 (AM15B) or AGBU/AGEC 1002(AM17B)

Syllabus:

Human beings now face the challenge of sustainable development, where the needs are for cooperative alliances, and recycled waste flows. Environmental economics seeks to meet this challenge, and explores questions such as: "Can we effectively develop policies to deal with the tricky issues of wealth distribution, population growth, international trade and energy in the world where "more growth" is no longer a simple solution?" This course reviews underlying ecological economic theory, and shows how it can be applied to try to solve existing and emerging environmental problems.

Assessment:

Coursework 40%

Final Examination 60%

AGBU 3012 (AM312)
PROJECT
(4 credits)

Syllabus:

A project within a subject area relevant to the student's degree option.

Assessment:

Project Report 80%

Oral Presentation 20%

***See Project Booklet for detailed guidelines**

AGCP 2000 (AC23A)
BIOSYSTEMS ENGINEERING PRINCIPLES
(3 credits)

Prerequisite: AGRI 1003 (AG14C)

Syllabus:

Introduction to biosystems engineering; elementary surveying; farm planning and layout; animal waste management; selection of simple structural members; mechanical power and power units; electrical power and motors; sound and noise; insulation and heat flow; properties of moist air; thermal environment; ventilation and cooling systems for buildings; handling, moisture management and storage of biological products; irrigation; rainfall and surface run off; soil erosion and control.

Assessment:

Coursework 20%

Final Examination: 80%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGCP 2001 (AC24B)
**PRINCIPLES OF CROP SCIENCE
AND PRODUCTION**
(4 credits)

Prerequisite: AGRI 1016 (AG11B)

Syllabus:

Cropping and cropping systems in the tropics with specific reference to the cropping systems in the Caribbean. Cultural practices employed in the production of tropical crops with emphasis on cereals and legumes. Methods of propagation, sexual and asexual, micro and macro propagation techniques. Seed production and storage. Principles involved in breeding and maintaining economic crops. Genetic engineering for crop improvement.

Assessment:

Coursework	40%
Final Examination	60%

AGCP 2003 (AC26B)
MECHANISATION FOR CROP PRODUCTION
(3 credits)

Prerequisites: AG14C and AC23A

Syllabus:

Principles of design, construction, operation and maintenance of power units and machinery for crop production. Management of machinery; determination of machinery requirements; machinery selection, performance and costs of use. Machinery for field operations; tillage, seed bed preparation, cultivation seeding and planting, chemical application and harvesting. Analysis and development of mechanised production systems with special reference to crop production in the Caribbean.

Assessment:

Coursework	20%
Final Examination:	80%

AGCP 3001 (AC31A)
VEGETABLE PRODUCTION
(4 credits)

Prerequisite: AC24B

Syllabus:

An overview of the distribution and importance of vegetable production in the tropics with specific reference to the Caribbean. Factors affecting vegetable production. Factors to consider in an agronomic model. Vegetable classification, nutrition, plant population, spacing and specialised growing techniques. Alternative crop production strategies, controlled environment agriculture. Import/Export linkages for vegetable produced in the Caribbean. Harvesting and handling vegetables. New technologies and research needs for sustainable vegetable production.

Assessment:

Coursework:	40%
Final Examination	60%

AGCP 3002 (AC32E)
CROP PRODUCTION SYSTEMS
(4 credits)

Prerequisite: AC24B

Syllabus:

The role of crop production in agricultural development. The linkage between the cropping system, the farming system and the agricultural system. Major factors influencing cropping system development. Typologies of cropping systems in the tropics and the social, economic, natural resource; requirement and technological aspects of cropping systems for selected tropical crops. Approaches to evaluating cropping systems. Cropping system design for improving and sustaining productivity. New paradigms, including organic farming and integrated crop management and precision agriculture.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGCP 3004 (AC32G)
INTRODUCTION TO FLORICULTURE
(3 credits)

Prerequisite: AC24B

Syllabus:

The status of the international floriculture industry with special attention to the Caribbean and the importance of tropical species. People plant relations. Greenhouse production of potted foliage and flowering plants, greenhouse selection, management of the green house environment, crop scheduling and management. Field production of cut flowers and cut foliage. After-sales potted plant care, post harvest management and utilisation of cut flowers.

Assessment:

Coursework	40%
Final Examination	60%

AGCP 3005 (AC32H)
LANDSCAPE AND TURFGRASS
MANAGEMENT
(3 credits)

Prerequisite: AC24B

Syllabus:

The role of plants in human well-being, the importance of the landscape industry and the use of plants in private and public spaces. The history of gardens and garden design. Plant identification techniques. Tree and shrub growth, development selection, establishment and maintenance. Turfgrass and ground cover growth and development, selection, establishment and maintenance. The elements and principles of landscape design, design process; uses of plant materials in landscape design. Landscape installation and maintenance.

Assessment:

Coursework	40%
Final Examination	60%

AGCP 3006 (AC32J)
PRINCIPLES OF FRUIT CROP PRODUCTION
(4 credits)

Prerequisite: AC24B

Syllabus:

Introduction to the status of fruit crop industry with specific reference to tropical crops. The role of fruits in human nutrition. The scientific principles of fruit crop growth and yield development. Production principles and technologies used in commercial fruit crop enterprises for selected fruits. Assessment of the commercial potential of minor fruits. Current issues and research needs of tropical fruit crops.

Assessment:

Coursework	40%
Final Examination	60%

AGCP 3011 (AC30B)
MAJOR CARIBBEAN EXPORT CROPS
(3 credits)

Prerequisite: AC24B

Syllabus:

Historical, current and potential status of the industries of the export crops of major economic significance in the Caribbean including sugarcane, banana, coffee, cocoa, citrus, nutmeg and arrowroot. Origin, distribution, markets and producers, environmental requirements, traditional production systems and their socio-economic and environmental consequences. Impact of globalization, agricultural diversification and environmental concerns on new production systems including organic production, post-harvest handling and utilization in the Caribbean and other SIDS. Crop production for value chains vs. commodity markets. Production constraints and research needs.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGCP 3012 (AC30A)
TROPICAL FOOD CROP
(3 credits)

Prerequisite: AC24B

Syllabus:

Traditional and improved production practices and systems for the major Caribbean food crops: starchy staples (tropical root crops, breadfruit, plantain, green bananas), vegetables and grain legumes. Production constraints and socio-economic issues relevant to production sustainability and Caribbean food security. Post-harvest handling systems for these crop groups. Alternative methods of utilization suitable for the Caribbean region.

Assessment:

Coursework	40%
Final Examination	60%

AGCP 3008 (AC33A)
POSTHARVEST TECHNOLOGY
(3 credits)

Syllabus:

The post harvest physiology and biochemistry of selected tropical fruits, vegetables, root crops and grains. The post harvest environment, including pathological agents, with particular reference to these crops. Physiological disorders. Post harvest handling systems. Introduction to basic equipment used in quality evaluation, refrigeration and storage systems, and general post harvest produce management.

Assessment:

Coursework	40%
Final Examination	60%

AGEX 1000 (AX15C)
Caribbean Agriculture in Perspective:
Evolution, Sociology and Contemporary
Issues
(4 credits)

Syllabus:

This course provides an understanding of the evolution of Caribbean Agriculture, including the plantation and peasantry systems. Students are given an overview of the structure of the sector in terms of the crops, livestock, fisheries, forestry and value-added agribusiness. The multifunctional role and contribution of the sector to food and nutrition security, livelihoods, the environment and sustainable rural development are examined. The course includes a study of stratifications and social structures, as well as rural versus urban life and the role of the mass media in Caribbean societies. The course concludes with an examination of contemporary issues and an insight into the way forward for Caribbean agriculture.

Assessment:

Coursework	25%
Final Examination	75%

AGEX 2001 (AX25B)
OPERATION AND MANAGEMENT
OF EXTENSION PROGRAMMES
(4 credits)

Prerequisite: AGEX 1000 (AX15C)

Syllabus:

Opportunities for programme delivery within communities. Skills for programme development. The support environment for programme delivery. Alternative strategies for community based programmes. Needs assessment methodologies. The Adult Learner. Group Behaviour. Leadership. Evaluation. Assessing Clients for Programme Delivery.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGEX 3000 (AX30A)
TECHNOLOGY TRANSFER IN AGRICULTURE
(3 credits)

Prerequisite: AGEX 1000 (AX15C)

Syllabus:

Characteristics of Caribbean Agricultural Knowledge/ Technology Systems. Technology transfer processes. Principles and methods of agricultural technology transfer for various agricultural and rural audiences. Practical exercises involving the main methods.

Assessment:

Coursework	25%
Final Examination	75%

AGEX 3001 (AX35A)
ISLAND FOOD SYSTEMS
(3 credits)

Prerequisite: AGEX 1000 (AX15C)

Syllabus:

An understanding of island food systems of the Tropical World, from the view point of their sustainability and how sustainability links to livelihood, equity and governance among selected island communities. The influences of these concepts on the occupations in farming, fishing, mining, forestry and national policy. Health and Nutrition Issues, Land and Water Use Conflict and Food Security. Appropriate development decisions in order to sustain island food systems which continually benefit all citizens.

Assessment:

Coursework	40%
Final Examinations	60%

AGEX 3003 (AX39A)
GENDER ISSUES IN AGRICULTURE
(3 credits)

Prerequisite: None

Syllabus:

Defining Gender as a social construct. Historical perspectives for Gender in Caribbean Agriculture. Gender roles and gender relations on the farm and in Agricultural Occupations. Gender Analyses. Gender sensitivity in decision-making which pertains to the agricultural industry. Feminist thinking. Masculinities.

Assessment:

Coursework	40%
Final Examination	60%

(Also offered to students reading relevant Minors and Majors in the Faculty of Social Sciences and the Faculty of Humanities & Education)

AGEX 3004 (AX36B)
COMMUNICATION SKILLS FOR PROFESSIONALS
(3 credits)

Prerequisite: AGEX 2001 (AX25B)

Syllabus:

The course deals mainly with how to process and present technical information for non-technical audiences. Steps in planning and preparing communication materials/ methods – setting objectives, analyzing the audience, designing messages, etc. Writing for, and producing selected media – brochures, newsletters, etc., for print and the Internet. Effective oral presentations using graphics. Basic photography including digital photography. Design and production of slide sets. Introduction to designing and producing instructional videos. Key points in preparing and presenting radio programmes.

Assessment:

Coursework	40%
Final Examination	60%

Not Offered In 2005/06

AGEX 3012 (AX312)
RESEARCH PROJECT
(4 credits)

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGEX 5001 (AX502)
COMMUNITY ANALYSIS
(4 credits)

Syllabus:

The nature and types of social organisation. Concepts and theories for the analysis of social consensus and social conflict in community relations. Patron-client relations, cooperative enterprises, influences of religion, culture and education and education on execution and monitoring of community-based research and development projects. Issues of organisational change and development.

AGEX 5002 (AX503)
EXTENSION PHILOSOPHY AND PRINCIPLES
(4 credits)

Syllabus:

Advanced concepts of philosophy, principles and methods in the extension process. Formal and non-formal approaches in the diffusion of knowledge with special reference to developing countries.

Assessment:

Coursework	25%
Final Examinations	75%

AGEX 5003 (AX504)
COMMUNICATIONS THEORY AND PRACTICE
(4 credits)

Syllabus:

The communication process. Principles of effective communication. Practicals and laboratory exercises on communication techniques including printed media, radio programmes, the preparation and use of audio-visual material.

Assessment:

Coursework	25%
Final Examinations	75%

AGEX 5004 (AX505)
COMMUNICATIONS THEORY AND PRACTICE
(4 credits)

Syllabus:

The communication process. Principles of effective communication. Practicals and laboratory exercises on communication techniques including printed media, radio programmes, the preparation and use of audio-visual material.

Assessment:

Coursework	25%
Final Examinations	75%

AGEX 5005 (AX506)
FIELD RESEARCH PROJECT
(8 credits)

Syllabus:

A project based on field research data collected and analysed by the candidate, for which a written report is submitted and an oral examination held.

AGEX 5006 (AX507)
MANAGING EXTENSION FOR AGRICULTURAL AND RURAL DEVELOPMENT
(4 credits)

Prerequisite:

Syllabus:

Agricultural and rural development. Organisational design and structure. The process of extension management; planning; organising; control systems. Human resource development; leadership, delegation and motivation; team building and conflict management; performance appraisal; staff training and development.

Assessment:

Coursework	25%
Examination	75%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGEX 5007 (AX508)
RURAL SOCIAL SYSTEMS
(4 credits)

Syllabus:

A systems approach in the analysis of rural social relations. Definition and discussion of primary and secondary groups, roles and social status, geographic and cultural communities. Rural-urban drift and immigration processes. Structural and social Caribbean rural development. Policy issues and programmes in the promotion of integrated rural development.

Assessment:

Coursework	25%
Final Examination	75%

AGEX 5007 (AX507)
RURAL SOCIAL SYSTEMS
(4 credits)

Syllabus:

A systems approach in the analysis of rural social relations. Definition and discussion of primary and secondary groups, roles and social status, geographic and cultural communities. Rural-urban drift and immigration processes. Structural and social Caribbean rural development. Policy issues and programmes in the promotion of integrated rural development.

Assessment:

Coursework	25%
Final Examination	75%

AGGE 1900 (AG19A)
PHYSICAL GEOGRAPHY
(6 credits)

Syllabus:

The course will cover general Earth-Science Tradition concepts including Physical geographical processes: Geomorphology; coasts, tectonic activity, rivers and hydrology, Caribbean Landforms, Biogeography, soils, Climatology; weather and climate, Anthropogenic-Environment Interactions; water quality and pollution, contributions to climate change, Caribbean Hazards; landslides, flooding, volcanoes, earthquakes

Assessment:

Coursework	40%
Final Examination	60%

AGGE 1901 (AG19B)
HUMAN GEOGRAPHY
(6 credits)

Syllabus:

The course will cover general human-environment interactions, with a Caribbean-focus: culture-environment issues; demography, population distributions, growth, relocation and transition, population controls; cultural geography, change and diversity; spatial behaviour; migration, perceptions to hazards; political, geopolitical assessments, international political systems; Locational Issues; economic activity and economies, natural resource use, urban economic bases, world urban diversity, regional issues, Earth Science and Locational Traditions

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGLS 1001 (AL13C)
ANATOMY AND PHYSIOLOGY OF ANIMALS
(3 credits)

Syllabus:

Brief introduction to comparative anatomy and physiology of livestock including muscle and growth, circulation, respiration, digestion, reproduction, lactation, immunology, endocrinology and tropical environmental stress.

Assessment:

Coursework	40%;
Examination	60%

AGLS 2001 (AL21C)
PRINCIPLES OF LIVESTOCK PRODUCTION
(4 credits)

Prerequisite: AGLS 1001 (AL13C)

Syllabus:

An introduction to the factors affecting animal production in general to show the interrelationship between animal health, nutrition, genetics and breeding, animal housing and the environment and the marketing of social factors, for domestic and non-domestic livestock species. To highlight the importance of physiological states in animal production systems and to understand the concepts used in developing intensive systems of animal production for both domestic and non-domestic species.

Assessment:

Coursework	40%
Final Examination	60%

AGLS 2002 (AL22B)
ANIMAL NUTRITION
(3 credits)

Prerequisite: AGLS 1001 (AL13C)

Syllabus:

The animal and its food; the nutrients and their digestion and metabolism; feedstuff used in animal diets; evaluation of feeds; feeding standards for maintenance, growth, reproduction and lactation; procedures in feed formulation.

Assessment:

Coursework	25%
Final Examination	75%

AGLS 2004 (AL26A)
LIVESTOCK PRODUCTS TECHNOLOGY
(3 credits)

Syllabus:

Technology of milk, meat products and eggs; including quality, consumer demand, methods of storage, distribution and processing, preparation and market presentation. Skin preservation, processing and grading. Field visits.

Assessment:

Coursework	40%
Final Examination	60%

AGLS 2005 (AL20B)
PARASITOLOGY, ANIMAL HEALTH AND DISEASE
(3 credits)

Prerequisite: AGLS 1001 (AL13C)

Syllabus:

Biology of parasites of major economic importance for various livestock species. Etiology, diagnosis, pathogenesis and management of parasitic infections, prophylaxis, therapeutics – diagnostic principles, infectious, production and parasitological diseases of cattle, small ruminants, pigs, poultry, rabbits and others, the epidemiology, clinical diagnosis, control and treatment of each disease with a focus on tropical/subtropical areas.

Assessment:

Coursework	60%
Final Examination	40%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGLS 3000 (AL33B)
POULTRY PRODUCTION
(3 credits)

Prerequisite: AGLS 1001 (AL13C)

Syllabus:

Structure of the poultry industry in CARICOM countries with emphasis on chickens. Species of poultry of commercial importance. Management practices including physiology, breeds and breeding, health maintenance, nutrition and feeding, housing and waste management, equipment, incubation (including hatchery management) and brooding. The rearing of breeder flocks, layers and broilers. Records, maintenance, handling, processing and marketing of poultry products.

Assessment:

Coursework	25%
Final Examination	75%

AGLS 3003 (AL36A)
RUMINANT PRODUCTION SYSTEMS
(3 credits)

Prerequisite: AGLS 1001 (AL13C), AGLS 2002 (AL22B) and AGLS 2005 (AL20B)

Syllabus:

Structure of the ruminant industry in CARICOM, brief physiology of ruminants, management practices including breeds and breeding, feeding, health and disease prevention and control, housing and waste management, record keeping, planning new enterprises and use of new technologies. Systems of production for beef and dairy cattle, water buffalo, sheep and goats.

Assessment:

Coursework	40%
Final Examination	60%

AGLS 3004 (AL37B)
NON-RUMINANT PRODUCTION SYSTEMS
(4 credits)

Prerequisite: AGLS 1001 (AL13C), AGLS 2002 (AL22B) and AGLS 2005 (AL20B)

Syllabus:

Structure of the pig, poultry and rabbit industries in the CARICOM region; management practices including physiology, breeds and breeding, feeding, health, housing and waste management, record keeping, technology and planning of an enterprise. Systems of production for pigs, poultry and rabbits.

Assessment:

Coursework	40%
Final Examination	60%

AGLS 3005 (AL38B)
PRINCIPLES OF WILDLIFE MANAGEMENT AND PRODUCTION
(3 credits)

Syllabus:

Description and importance of wildlife. An introduction to Wildlife Management with particular reference to the neo-tropics. Approaches to Wildlife Conservation. To understand the concepts used in developing intensive systems of animal production for both domestic and non-domestic species. The description of intensive production models of the important neo-tropical species of wildlife.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGLS 3008 (AL30C)
APPLIED ANIMAL PHYSIOLOGY
(3 credits)

Prerequisite: AGLS 1001 (AL13C)

Syllabus:

This course is designed to link animal production potential to the underlying physiological processes. The course will be used to demonstrate how knowledge of the animals' physiological processes is being used to enhance or modify production and performance. The course will focus on applied reproductive physiology including assisted reproductive technologies including estrous synchronization, embryo transfer, superovulation, semen evaluation and cloning, manipulation of lactogenesis and galactopoiesis; modification of the digestive process including use of enzymes, feed additives, and feed processing to enhance rumen by-pass capacity, nutritional management to reduce environmental pollution, modify product composition and reduce metabolic disorders; modification of the growth process including the use of growth promotants and repartitioning agents; Stress physiology and manipulation of the Hypothalamo-Pituitary-Adrenal axis; transgenesis to enhance productivity and or change products and; nutrition reproduction interactions.

Assessment:

Coursework	60%
Final Examination	40%

AGRI 3013 (AG313)
RESEARCH PROJECT
(4 credits)

AGRI 1000 (AG133)
PRACTICAL SKILLS - SUMMER
(3 credits)

Syllabus:

Practical tropical crop and animal husbandry and farm machinery and equipment handling and usage. Activities include field trips to observe modern and appropriate agriculture technologies.

Assessment:

Report on activities undertaken and one test. Grading is pass or fail.

Request for exemption from Practical Skills must be submitted before the end of Semester I to the Dean's Office.

AGRI 1003 (AG14C)
MATHEMATICS FOR SCIENTISTS
(3 credits)

Syllabus:

Review of Numbers, Indices and Logarithms. Basic linear algebra, Functions, Graphs, Differential and Integral Calculus. Elements of Matrix Algebra.

Assessment:

Coursework	40%
Final Examination	60%

AGRI 1010 (AG18A)
INTRODUCTION TO CROP AND LIVESTOCK PRODUCTION
(4 credits)

Syllabus:

Introduction to fundamental concepts of crop and livestock production. Provides an overview of crop production and deals with the major species of livestock in the CARICOM region, along with the factors that affect their productivity and profitability.

Assessment:

Coursework	20%
Final Examination	80%

AGRI 1011 (AG10C)
INTRODUCTION TO GENERAL GENETICS
(3 credits)

Syllabus:

Review of historical development of genetics and its contribution to society. Study of basic principles of heredity including Mendel's Laws, incomplete dominance, sex determination and sex linkage. Extension of Mendelian genetics to Population and Quantitative genetics; Chemical basis of heredity, genetic variation and recombinant DNA technology.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGRI 1012 (AG10A)

MICROBIOLOGY

(3 credits)

Syllabus:

Microbiology as a fundamental study of bacteria, fungi and viruses, their structure and growth, genetic recombination in bacteria and microbial control. Food-borne diseases and Hazard Analysis and Critical Food Point System (HACCP). A study of the ecology of microorganism, and the roles of microorganisms in agriculture, technology and human.

Assessment:

Coursework 40%

Final Examination 60%

AGRI 1013 (AG10B)

INTRODUCTION TO BIOCHEMISTRY

(4 credits)

Syllabus:

The course will cover biomolecules including nucleotides and nucleic acids, proteins and amino acids, carbohydrates and lipids; Enzymes, including enzymatic catalysis, enzyme kinetics, regulation and inhibition; metabolism including, glycolysis, citric acid cycle, electron transport and oxidative phosphorylation, gluconeogenesis, glycogenolysis, lipogenesis, lipolysis, photosynthesis, amino acid metabolism, nucleotide metabolism; gene expression and replication including DNA repair, replication and recombination, transcription and RNA processing, translation and regulation of gene processing.

Assessment:

Coursework 60%

Final Examination 40%

AGRI 1016 (AG11B)

PLANT ANATOMY AND PHYSIOLOGY

(3 credits)

Syllabus:

Introduction to the evolution, taxonomy and diversity of crop plants; support, transport and protective tissues; root and stem structure and modifications. Organs of perennation. Major C₃ and C₄ crop plants; Floral structure and seed dispersal. Fruit classification. Water relations of cells and whole plants; photosynthesis, translocation assimilate partitioning and plant productivity; ion uptake and mineral nutrition; germination, dormancy and seedling establishment; regulation of growth and development by hormonal and environmental factors: introduction to plant growth and analysis.

Assessment:

Coursework 60%

Final Examination 40%

AGRI 2000 (AG233)

INTERNSHIP – SUMMER

(3 credits)

Syllabus:

Hands-on experience in agricultural activities on accredited commercial, semi-commercial, research or marketing institutions in any Caribbean country.

Assessment:

Coursework 100%

(Host Evaluation: 35%

Student Report: 50%

Co-ordinator Evaluation: 15%)

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGRI 2001 (AG21C)
TROPICAL CROP PROTECTION
(3 credits)

Prerequisite: AGLS 1001 (AL13C) and AGRI 1016 (AG11B)

Syllabus:

The nature and extent of pest damage in the tropics and the roles of various pest agents-insects, mites, nematodes, weeds, pathogens, vertebrate pests. Biology and ecology of tropical pests and the concept of pest threshold levels. Principles of pest control-cultural, biological, chemical, legislative. Pesticide for crop pest management, formulations and application. Pesticide safety concepts. Integrated pest management.

Assessment:

Coursework 40%

Final Examination 60%

AGRI 2002 (AG22C)
POSTPRODUCTION TECHNOLOGY
(3 credits)

Prerequisite: AGEX 1000 (AX15C) and AGRI 1016 (AG11B)

Syllabus:

Technology for agricultural products quality measurement and enhancement during processing and marketing; commodity and co-product processing into value added materials and specialty products. Increasing marketability and value of commodities by ensuring value-added products retain sensory quality, nutritional value and are free from safety hazards. Recovery and utilisation of processing waste.

Assessment:

Coursework 30%

Final Examination 70%

AGRI 3000 (AG35B)
STATISTICAL METHODS
(4 credits)

Prerequisite: AGRI 1003 (AG14C)

Syllabus:

Basic descriptive statistics, basic concepts and terms in inferential statistics. Binomial and Normal Distributions. Inference about a single population mean and the difference between two populations mean. Analysis of categorical data: assessing independence of factors and Goodness of Fit Test. Design of experiments and analysis of variance, correlation and simple linear regression.

Assessment:

Coursework 40%

Final Examination 60%

AGRI 3001 (AG39A)
CLIMATE CHANGE IMPACT & MANAGEMENT
(4 credits)

Prerequisites: BIOL 1462 (BL11G) or AGEX 1000 (AX15C)

Syllabus:

Physical principles of meteorology and atmosphere dynamics. Greenhouse gases and climate change. Techniques of monitoring and control of atmospheric pollution. Global warming and impacts on the environment. Adaptation strategies and Impact control. International Global Climate Control Treaties.

Assessment:

Coursework 40%

Final Examination 60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGRI 3006 (AG30B)
PRINCIPLES OF ANIMAL AND PLANT
BREEDING

(4 credits)

Prerequisites:

Syllabus:

Core contents will include mitosis and meiosis including oogenesis and spermatogenesis; Mendelian genetics, including independent assortment, use of laws of probability and chi-square analysis to explain the genetic events and the influence of change on genetic data; Extensions of Mendelian genetics including the concept of multiple alleles, incomplete, partial and co-dominance, epistasis, sex-linked and sex-influenced inheritance; Quantitative genetics including inheritance of quantitative and polygenic traits; heritability; Linkage crossing over mapping; Chromosome mutations and variation in chromosome number including nondisjunction, inversion, deletions and translocations; Extra nuclear inheritance, including mitochondrial and chloroplast DNA, genomic imprinting; Genetics of Bacteria and Bacteriophages and Population genetics including allelic frequencies, Hardy-Weinberg law, effects of mutations, migration, genetic drift and non random mating on genotype and allelic frequencies, genetic basis for inbreeding depression; Genetic improvement principles, estimating genetic value including contemporary groups, EPDs, EBVs, accuracy and genetic markers; selection including methods of selection; principles of mating systems.

Assessment:

Coursework	40%
Examination	60%

AGRI 3007 (AG39B)
CURRENT ISSUES IN AGRICULTURE
(3 credits)

Prerequisites:

Syllabus:

It involves directed study on any topic of interest to the students, may include library and laboratory learning experiences not otherwise available to undergraduate students.

Assessment:

Written Report of Study	60%
Oral Presentation/Defence	40%

AGRI 3012 (AG30A)
AGRICULTURAL BIOTECHNOLOGY
(3 credits)

Prerequisites: AGRI 1013 (AG10B) and AGRI 1011 (AG10C)

Syllabus:

This course will cover the application of biotechnology in amelioration of productivity of soils, livestock and poultry, crops and horticulture, and food production/quality.

Assessment:

Coursework	40%
Final Examination	60%

AGSL 1000 (AS16B)
SOILS AND THE ENVIRONMENT
(4 credits)

Syllabus:

Soil texture, structure, aeration, water relations, evapotranspiration, climatic factors and their measurements; impact of local climate and climate near the ground on agriculture; agriculture and the environment. Chemical nature and properties of clays, soil organic matter, ion exchange and soil reaction; agricultural importance of soil components; soil chemical constraints and availability of N, P, K, Ca, Mg and minor elements; amelioration of chemical behaviour of soils.

Assessment:

Coursework	25%
Final Examination	75%

AGSL 2000 (AS22B)
SOIL FERTILITY AND FERTILIZER
TECHNOLOGY
(3 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

Principles of soil fertility and plant nutrition; Essential elements for plant growth; Nutrient cycles and nutrient dynamics in soils – macro and trace elements; Soil pH management; Essentials of fertilizers – manufactured and natural; Soil fertility evaluation; Fundamentals of nutrient and fertilizer management; Isotopic techniques in fertilizer optimisation; Environmental concerns with fertilizer use.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGSL 2001 (AS21D)
SOIL AND WATER MANAGEMENT
(3 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

Methods of land clearing and their effects on soil structure; soil tillage and the management of soil structure for plant growth; management of soil structure to improve water intake, transmission and storage; water management for salinity control; soil erosion and the management of hillsides; management of dry and wet lands; management of forest soils; management of specific problem soils: soil management and its effects on microbes, microbial activity and soil fertility; soil fertility management; case studies.

Assessment:

Coursework	25%
Final Examination	75%

AGSL 3000 (AS30B)
WATER RESOURCE MANAGEMENT AND PROTECTION
(3 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

Sources of water and their use by man; elementary hydrology; water storage methods; constructing small storage facilities; controlling water runoff; harnessing and conveying water; water losses during water storage and use; methods of reducing water losses; consumptive use of water by crops; estimating and measuring crop water requirements for optimum crop growth; irrigation scheduling; protecting the water resources against pollution and salinisation; legal aspects of water management and use.

Assessment:

Coursework	25%
Final Examination	75%

AGSL 3001 (AS31A)
IRRIGATION AND DRAINAGE TECHNOLOGY
(3 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

Soil water potential and measurements; saturated/unsaturated water movement; water movement to roots; evaporation, evapotranspiration and consumptive use. Sources of water; methods of water application; design, installation, operation and evaluation of irrigation systems; pumps and pumping for irrigation and drainage; drainage principles; types of drains; planning, design and installation of drainage systems; legal and administrative aspects of irrigation and drainage.

Assessment:

Coursework	25%
Final Examination	75%

AGSL 3002 (AS33D)
SOIL SURVEY AND LAND EVALUATION
(4 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

Principles of soil ecology and soil habitation – faunal and floral interactions with soil properties; kinds, classes, and field techniques in soil surveys; Aerial photographic interpretation; Remote sensing, GIS and their applications; soil and land capability classification; Use and interpretation of soil and land capability maps; Land evaluation techniques.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

AGSL 3004 (AS34D)

INTEGRATED WATERSHED MANAGEMENT

(4 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

The hydrologic cycle; rainfall, runoff/stream flow measurement and analysis; rainfall-runoff models; the watershed and its ecosystem; biogeochemical and nutrient cycles; integrated watershed management principles and planning; soil and water resources conservation practices; watershed degradation and restoration; soil erosion and control; water quality and yield improvement; the role of forestry/agro-forestry; socio-economic, legal and institutional aspects. Case studies and field trips.

Assessment:

Coursework	25%
Final Examination	75%

AGSL 3005 (AS35B)

WEST INDIAN SOILS

(3 credits)

Prerequisite: AGSL 1000 (AS16B)

Syllabus:

Influence of soil forming factors on soil formation and development specific to the wider Caribbean region; soil formation and distribution in the various Caribbean ecological zones; soil classification at regional and international levels; land use and management appropriate to the region; soil degradation and rehabilitation; land capability appropriate to the region; soil data base and land use planning appropriate to small islands states; field studies of selected West Indian Soils.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3361 (BC33A)

APPLIED BIOCHEMISTRY

(4 credits)

Prerequisites: BC23B

Syllabus:

Biochemical toxicology, including the absorption, metabolism and effects of toxins on mammalian cell metabolism. Human nutrition with particular reference to developing regions. Basic virology. Laboratory techniques in cell culture and immunochemistry.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3864 (Z34D)

FISHERIES BIOLOGY & MANAGEMENT

(4 credits)

Prerequisite: Z23C

Syllabus:

History, status and future of global fisheries. Fishing methods. Caribbean fisheries, especially in Trinidad & Tobago. Fish population dynamics, recruitment, fish stock assessment and fish migration. Fish handling, processing and the process of spoilage; Fisheries yield-prediction model. Management of tropical fisheries. Critical fish habitat. Law of the sea and its implications. Practicals include time at sea.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

BIOL 1061 (BL11D)
CELL BIOLOGY AND GENETICS
(6 credits)

Prerequisites:

A-level pass in Biology and at least O-Level/CXC pass in Chemistry

Syllabus:

A study of the ultra structure of the cell, biochemistry of bio molecules and inheritance. Topics include structure and function of bio molecules and cell organelles, enzyme activity, bioenergetics, respiration, the mechanisms of inheritance, gene mapping and genetic variation.

Assessment:

Coursework	20%
One 3-hr practical	20%
Final Examination	60%

BIOL 1065 (BL12A)
DIVERSITY OF PLANTS AND ANIMALS
(4 credits)

Prerequisites: Passes in 2 A-level subjects or equivalent which should normally include Biology

Syllabus:

An introduction to the diversity of plants and animals. The characteristics, range of structure, reproduction, life cycles and habits of selected plant and animal groups will be covered.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 1462 (BL11G)
GENERAL ECOLOGY AND BIOMETRY
(6 credits)

Prerequisites: A-level Biology or Permission of Dean

Syllabus:

An introductory treatment of ecology and data analysis. Topics include population ecology, community ecology, ecosystem ecology, a survey of terrestrial and aquatic ecosystems, descriptive statistics, inferential statistics, independence and probability, simple linear regression and correlation.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 1764 (BL11F)
DIVERSITY OF GREEN PLANTS
(6 credits)

Prerequisites: A-level pass in Biology or Botany or equivalent

Syllabus:

An introduction to the evolution, taxonomy, and diversity of green plants, from simple algae to complex flowering plants. Topics include factors governing plant size and structure, origin of land plants, organismal theory of plant form. Life cycles of the green and brown algae, mosses, lycophytes, ferns, cycads, gymnosperms, and flowering plants. Requirements for life on land. Success of ferns and flowering plants. Support, vascular, and protective tissues. Leaf, stem and root and their modifications. Meristems, phyllotaxy, and plant architecture. Grasses. Wood anatomy. Flower, fruit, and seed. Pollination and seed dispersal.

Assessment:

Two In-course theory tests	10%
Lab Reports	10%
Two practical tests	20%
Final examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 1861 (BL11E)
ANIMAL DIVERSITY
(6 credits)

Prerequisites: A-level Biology or equivalent

Syllabus:

A survey of the phylogeny and characteristics of major invertebrate and vertebrate animal groups. Special topics include theories of origin of multicellularity; cellular and tissue level organisation; diploblastic and triploblastic conditions; body cavities; metamerism; segmentation and tagmatization; early embryonic development; colonisation of land and evolutionary trends in vertebrates.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2062 (Z23B)
FRESHWATER BIOLOGY
(4 credits)

Prerequisites: BIOL 1462 (BL11G) or (AG13A & AG14A)

Syllabus:

The hydrological cycle. The physical properties of water. Chemical composition of inland waters. Standing waters: stratification and mixing. Running waters: longitudinal zonation. Characteristics of freshwater wetlands, tropical flood plains, temporary pools, intermittent streams, athalassic lakes. Community structure, organisation and community metabolism in freshwater habitats. Human influences in freshwaters: fisheries, pollution.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2063 (Z23C)
MARINE ECOLOGY
(4 credits)

Prerequisites: BIOL 1462 (BL11G) or (AG13A & AG14A)

Syllabus:

Topics on basic oceanography including bathymetry and topography of the ocean floor; plate tectonics and continental drift; physical and chemical properties of sea water; atmospheric and oceanic circulation; tides; form and function of planktonic organisms; primary and secondary organic production and zooplankton distribution including sub tidal shallow sea, deep sea, hydrothermal vent communities and inter tidal benthic communities.; Coral reef biology; biology of marine mammals.

Practicals include time at sea.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2162 (BL27B)
ADVANCED GENETICS
(4 credits)

Prerequisites: BL11D or AP10A/ AP10B

Syllabus:

A study of prokaryotic and eukaryotic genetics. Topics include DNA structure and replication; gene expression and regulation; recombination in prokaryotes, complementation and recombination mapping, gene fine structure analysis and evolution of the concepts of a gene; changes in chromosome structure and number – their transmission and evolutionary significance.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 2261 (BL28C)
BIOLOGY OF MICRO-ORGANISMS
(4 credits)

Prerequisites: BL11D or AP10A / AP10B

Syllabus:

Biology of bacteria, fungi and viruses. Topics include taxonomy, structure, nutrition, reproduction and management of prokaryotes, viruses and fungi; importance of microbes and fungi to man and the environment.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2361 (BC22A)
BIOMOLECULES AND ENERGY
METABOLISM
(4 credits)

Prerequisites: BL11D plus C11C

Syllabus:

Physical and solvent properties of water. pH and the theory of buffer action. Chemical structures and physico-chemical properties of amino acids, proteins and complex carbohydrates. Enzymology, including kinetics, inhibition, mechanisms of rate enhancement and regulation. Bioenergetics. Integration of metabolism. Regulation of the TCA cycle and the chemiosmotic mechanism of oxidative phosphorylation.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2362 (BC22B)
FURTHER METABOLISM AND
GENE EXPRESSION
(4 credits)

Prerequisites: BL11D and C11C

Co-requisite: BC 23A

Syllabus:

The structure and biosynthetic pathways of porphyrins. Aspects of mineral metabolism and nutrition. Chemistry of nucleic acids. Organisation of the genetic material in prokaryotes and eukaryotes. Gene expression in prokaryotes. The operon theory for regulation of gene expression. Chemical evolution. Introduction to the biochemistry of micro-organisms.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2363 (BC23A)
METABOLISM
(4 credits)

Prerequisites: BL11D and C11C

Syllabus:

Pathways and control mechanisms for the metabolism of lipids, amino acids and nitrogen. Carbohydrate biosynthesis and photosynthesis. Outline of the basic concepts regarding contractile systems and mechanisms of hormone action. Introduction to the structure and function of immunoglobulins.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 2364 (BC23B)
ADVANCED GENERAL BIOCHEMISTRY
(4 credits)

Prerequisites: BL11D and C11C

Co-requisite: BC 22A and BC23A

Syllabus:

Relationships between protein structure and function. Mechanism of action of specific enzymes or classes of enzymes e.g. serine proteases, thiol proteases, lysozyme, aldolase, transaminases, oxidoreductases. Membrane structure and transport processes. Metabolic regulation in mammalian energy metabolism.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 2461 (Z24B)
HUMANS & THE ENVIRONMENT
(4 credits)

Prerequisites: BL11G or (AG13A & AG14A)

Syllabus:

Evolution of humans and human races and origin of diversity. Anatomical, physiological and cultural adaptations to diverse environments. Ecology of human diseases and health. Human population demography and human population-resources relationships. Technological development and its impacts on the environment and human population. The future of human populations.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 2761 (BT27A)
PLANT PHYSIOLOGY
(4 credits)

Prerequisites: BL11D and BL11F

Syllabus:

An advanced treatment of plant physiology and selected aspects of cellular metabolism. Topics include water relations of cells, tissues and whole plants; germination, seedling development, growth, differentiation and growth analysis; mineral uptake and plant nutrition; photosynthesis, translocation and sink / source relationships; roles and applications of hormones and growth regulators.

Assessment:

Coursework 40% comprising

Two in-course theory tests 20%

Lab Reports 10%

One Assignment 5%

One in-course practical test 5%

Final Examination 60%

BIOL 2861 (Z21E)
FUNCTIONAL DESIGN IN ANIMALS
(4 credits)

Prerequisite: BL11E or AL11B or AL13B

Syllabus:

Adaptation and design in animals. A detailed treatment will be given at the gross anatomical as well as fine structure levels of adaptive structures and features used by animals to perform the functions of protection, support, locomotion, feeding, gas exchange, internal transport, waste elimination and reproduction.

Assessment:

Coursework 40%

Final Examination 60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 2862 (Z21F)

ANIMAL PHYSIOLOGY

(4 credits)

Prerequisite: BL11E or AL11B or AL13B

Syllabus:

Processes and fundamental concepts in gaseous exchange, metabolism, temperature regulation, osmoregulation, haemodynamics of blood circulation and fundamental concepts in sensory, neural and muscle physiology.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2864 (Z22C)

PARASITISM

(4 credits)

Prerequisite: BL11E or AL11B or AL13B

Syllabus:

Intimate association among animals and problems associated with forming working definitions.

Symbiosis: commensalism, mutualism, brood parasitism and parasitoids.

Parasitism: ecto- and endoparasitism. Range and characteristics of parasitic organisms. Host-parasite interactions. Behavioural aspects of organism associations. Parasite ecology and evolution of intimate associations.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 2866 (Z22B)

ENTOMOLOGY

(4 credits)

Prerequisite: BL11E or AL11B or AL13B

Syllabus:

The nature of insects and their success. Review of external morphology. Flight. Review of organ systems and physiology. Development, growth, moulting and metamorphosis. Sensation and perception. Evolutionary survey of major orders.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3061 (BL38C)

MOLECULAR BIOLOGY

(4 credits)

Prerequisites: BL27B or BC22B

Syllabus:

An advanced treatment of gene and genome organisation in eukaryotes and gene regulation in prokaryotes and eukaryotes. Recombinant DNA technology and its application, including vectors, restriction enzymes and restriction mapping, construction of libraries and gene isolation, construction and use of RFLP maps. DNA fingerprinting, analysis and sequencing of genes. PCR and its applications.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 3062 (Z36B)
CONSERVATION BIOLOGY
(4 credits)

Prerequisite: BL11G or Equivalent (Students are also advised to do BL11D or AP10B)

Syllabus:

Principles of conservation biology including types and distribution of biodiversity, loss of biodiversity and its consequences; endangered species; population viability analysis and monitoring.

Conservation practices: protected areas, biosphere reserves, restoration ecology; ex situ conservation strategies and genetic engineering; establishing new populations by translocation and reintroduction.

Legal and institutional aspects: Land tenure systems and species and habitat protection; national legislation; conservation authorities and organisations; international programmes; international conservation treaties and conventions; conservation education.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3068 (BL33C)
FIELD COURSE IN NEOTROPICAL ECOLOGY
(4 credits)

Prerequisites: BL11G and 16 credits of Level II Life Sciences courses, or permission of the department

Syllabus:

Introduction to focal group, ecological principles illustrated by focal group, specialized features of focal group, class research projects.

Assessment:

Field book	50%
Group oral report	10%
Group written report	40%

BIOL 3069 (BL33B)
RESEARCH PROJECT
(4 credits)

Prerequisites: At least a B average in Level II Life Sciences courses or permission of the Head of Department. Students wishing to do this course are strongly encouraged to read an elementary statistics course.

Syllabus:

Short lecture course (6-8 hours); Aims and means of assessing project feasibility; Methods of investigation; Experimental design; Project reporting and presentation. An approved investigation of a problem in biological and a written report thereon.

Assessment:

In-course assessment	40%
Project Report	60%

BIOL 3262 (BL38J)
MICROBIAL BIOTECHNOLOGY
(formerly Applied Microbiology)
(4 credits)

Prerequisites: BL28C or AG13A or (BC23A & BC22B) or AG13B

Syllabus:

Advanced treatment of applications of microbiology including microbial ecology and symbiotic relationships; pathogenesis in plants / animals; principles of immunology; food spoilage and processing; single cell protein production, sewage treatment; microbial leaching and genetic engineering. Other special topics dealt with are photosynthesis – anaplerotic and respiratory systems in bacteria; use of radioisotopes in microbiology; Strickland reactions; amino acid production, industrial – and organic acid fermentation.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 3362 (BC38B)
SELECTED TOPICS IN BIOCHEMISTRY
(4 credits)

Prerequisites: BC22A and BC23B

Syllabus:

The areas of study may vary slightly from year to year but will usually include:- Modern concepts of immunology. Regulation of the biosynthesis of amino acids. Biochemistry of selected tissues (eye, muscle, kidney, adipose tissue). Neurochemistry, biological oxidations and mechanisms of signal transduction.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 3364 (BC37B)
CLINICAL BIOCHEMISTRY - I
(4 credits)

Prerequisites: BC 23A

Syllabus:

Principles of clinical analytical methods. Water and electrolyte balance, oxygen transport and acid-base balance. Enzyme tests in diagnosis. Biochemistry of liver disease. Aspects of clinical endocrinology, including thyroid steroid and various peptide hormones. Plasma lipoprotein metabolism.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 3461 (Z31A)
COASTAL ECOSYSTEM MANAGEMENT
(4 credits)

Prerequisite: Z23A or Z23C

Syllabus:

Coastal resources: An examination of the natural resources associated with beaches, coral reefs, wetlands, estuaries, harbours and other shoreline features. Pollution ecology, pollutants, especially organic, oil, pesticide, heavy metal, physical and thermal pollution, their sources, effects and remedies.

Resources management practices: Coastal surveys, environmental monitoring, water quality criteria, zoning, legislation and enforcement. Marine parks and conservation areas – purpose, criteria, development and management.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 3463 (BL39B)
POLLUTION & ENVIRONMENTAL
MANAGEMENT
(4 credits)

Prerequisites: Z24B

Syllabus:

Ecotoxicology. Ecotoxicity testing. Epidemiology and public health. Introduction to environmental law. Environmental regulations. Ecological crime. Environmental sampling and testing methods for water, air, sediment, noise, radioactivity. Environmental engineering background. Physiochemical and biological treatment methods for sewage and industrial waste.

Assessment:

Coursework 40%

Final Examination 60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 3464 (BT37E)
**TROPICAL FOREST ECOLOGY
AND MANAGEMENT**
(4 credits)

Prerequisites: BL12A or BL11G

Syllabus:

An advanced treatment of topics in tropical forest ecology and management. Topics include biotic and abiotic factors, biotic interactions including regulation of biodiversity, succession and regeneration and nutrient cycling in tropical forest ecosystems. Disturbances and tropical forest management including the history of forestry in the wet tropics; tropical forest inventory; tropical forestry towards sustainability; plantation forestry in the wet tropics; social dimensions and the future of tropical forest management.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 3662 (BL36B)
EVOLUTION AND BIOSYSTEMATICS
(4 credits)

Prerequisites: BL11D or AP10A /AP10B

Syllabus:

An advanced treatment of population genetics, evolution and methods of biosystematics. Topics include the H-W model; evolutionary forces; neutral theory vs. selectionist theory; macroevolution; co-evolution and biogeography; speciation: the biological species concept, isolating mechanisms; within species variation and micro taxonomy; morphological, chemical and molecular systematics; derivation of cladograms; formulation classifications; biological nomenclature. Case studies.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 3761 (BT31C)
FUNCTIONAL DESIGN IN PLANTS
(4 credits)

Prerequisites: BL11D and BL11F

Syllabus:

A multifaceted approach to the study of plant evolution, development, and structure. Topics include Phyllotaxy, the Fibonacci series, the Golden ratio, and the congruence of plant and animal form and fine art. The relationship of cell and organism in higher plants: Are cells the building blocks of plant form? Origin of land plants: Did multicellular plants invade the land? Evolution and adaptiveness. Scaling and plant size. Economy of design. The role of plant morphology in evolutionary concepts and in plant molecular biology. Cellular basis for growth, morphogenesis, and differentiation. Growth patterns, polarity, and the developmental axis. Apical development and possible mechanisms. Determination of leaves, thorns, and cambium. Floral transformation.

Assessment:

Coursework 40%

Final Examination 60%

BIOL 3762 (BT36D)
PLANT BIOTECHNOLOGY
(4 credits)

Prerequisites: BL27B or (BC22B & BC23A)

Syllabus:

Advanced treatment of topics in plant tissue culture and plant genetic engineering and their applications. Topics include an overview of plant tissue culture and its applications in micro propagation, disease-elimination, virus-indexing and crop improvement. Overview of methods of plant transformation – biology, efficiency and predictability. Evaluation of transgenic plants. Application of genetic engineering in virus-, insect-, herbicide- resistance; in enhancing nitrogen fixation, photosynthesis, nutrition and post-harvest qualities; and in conservation and management of plant genetic resources. Intellectual property rights and safe release of genetically modified organisms. Socio-economic considerations.

Assessment:

Coursework 40%

Final Examination 60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 3763 (BT38L)
CROP IMPROVEMENT
(formerly Plant Breeding)
(4 credits)

Prerequisites: BL27B or AC24A

Syllabus:

Objectives of plant breeding; Crop evolution and genetic variability; genetic erosion and germplasm conservation. Creating genetic variability – mutagenesis, somaclonal variation, inter- and intra-specific hybridisation. Reproductive isolation systems and their manipulation; Principles of selection-factors affecting genetic gain, selection methods, marker assisted selection and response to selection. Principles and methods of breeding self-pollinated cross-pollinated and vegetatively propagated crops. Case studies. Breeding for disease resistance. Impact of biotechnology on plant breeding. Seed production and release.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3764 (BT38E)
ECONOMIC BOTANY
(4 credits)

Co-requisites: BL36B

Syllabus:

Early domestication of plants and associated changes. Large-scale plantation crops – sugarcane, cocoa, coffee, citrus, and coconut. Products from secondary metabolites such as gums, dyes, resins, essential oils and spices, pharmaceuticals, narcotics. Fibres – origin, types, importance and utilisation by man. Timber production in the tropics and non-wood forest products. Under exploited plants. Ornamental horticulture.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3765 (BT38G)
PLANT PATHOLOGY
(4 credits)

Prerequisites: BL28C or AG13A or AG13B

Syllabus:

Biotic and abiotic causes of plant disease. Pathogenesis, disease development and symptomatology. Etiology: dispersal and survival of plant pathogens. Epiphytotic and disease forecasting. Defense mechanisms in plants; active and passive. Principles of plant disease control: exclusion, eradication, protection, disease resistance and integrated control. Fungicide usage. Study of selected plant diseases of importance in the Caribbean.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3861 (Z33E)
ANIMAL BEHAVIOUR
(4 credits)

Prerequisite: Z21E or Z21F

Syllabus:

History and development of behavioural sciences. Development of behaviour in the individual. Instinctive and learnt behaviour. Stimulus perception and orientation. Motivation and the organisation of behaviour. Rhythmic behaviour and activity patterns. Social behaviour and communication. The ecology and evolution of behaviour.

Assessment:

Coursework	40%
Final Examination	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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BIOL 3863 (Z34E)
TROPICAL AQUACULTURE
(4 credits)

Prerequisite: BL11E or AL11B/ AL13B

Syllabus:

History, status and future of tropical aquaculture. Hatchery design and operation. Farm and pond design and operation. Water quality management in tropical fish ponds. Fish feed technology. Tropical fish diseases and control. Biology and culture of selected tropical finfish, shellfish, sea-weed and aquatic reptiles. Polyculture and integrated aquaculture. The tropical ornamental fish trade. Environmental impacts.

Assessment:

Coursework	40%
Final Examination	60%

BIOL 3865 (BL39A)
ANIMAL BIOTECHNOLOGY
(4 credits)

Prerequisites: (AP10B or BL11D) and AL23B or BL27B or (BC22B and BC23A)

Syllabus:

Definition and scope of biotechnology. A survey of important technological revolutions and their application to nutrition, health, genetic conservation and improvement of animals, including an advanced treatment of technologies such as genome projects, cell culture, cloning, science and practice of transgenesis and molecular marker technology and their applications to reproductive biotechnology, marker-assisted breeding, nutritional biotechnology, animal health and conservation of wildlife and breeds.

The course consists of thirty-six (36) hours of lectures and six (6) three-hour laboratory sessions.

Assessment:

Coursework	40%
Final Examination	60%

CHEM 2260 (C20B)
BASIC ORGANIC CHEMISTRY I
(4 credits)

Prerequisite: CHEM 1060 (C11C)

Syllabus:

Aromatic chemistry, carbon-carbon bond formation, principles of organic synthesis, principles of stereochemistry. Practical: Thirty (30) hours of practical work.

Assessment:

Coursework – Practical & Theory	25%
Final Examination	75%

CHEM 0060 (C06E)
PRELIMINARY CHEMISTRY I
(0 credits)

Syllabus:

Theory: Foundations of Chemistry. Descriptive inorganic and organic chemistry. Energy changes in chemical reactions. Chemical equilibria. Chemical kinetics.

Practical: Forty-eight (48) hours of practical work

Assessment:

Coursework – Practical & Theory	25%
Final Examination	75%

CHEM 0061 (C06F)
PRELIMINARY CHEMISTRY II
(0 credits)

Syllabus:

Theory: The three physical states of matter. Further introduction to the chemistry of the elements. Properties of solutions. Acid-base systems and buffer systems. Electrical conductance, oxidation-reduction.

Practical: Forty-eight (48) hours of practical work.

Assessment:

Coursework – Practical & Theory	25%
Final Examination	75%

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CHEM 1060 (C11C)
INTRODUCTORY CHEMISTRY I
(6 credits)

Prerequisites: CHEM 0060 (C06E) & CHEM 0061 (C06F) or A-level Chemistry or their equivalent.

Syllabus:

Theory: Atomic Structure, periodic properties, bonding and molecular structure including covalent bonding, Structure of organic molecules, reactions of functional groups of organic compounds. IR Spectroscopy.

Practical: Forty-eight (48) hours of practical work.

Assessment:

Coursework – Practical & Theory 25%

Final Examination 75%

CHEM 1061 (C11D)
INTRODUCTORY CHEMISTRY II
(6 credits)

Prerequisites: CHEM 0060 (C06E) & CHEM 0061 (C06F) or A-level Chemistry or their equivalent.

Syllabus:

Theory: Introduction to main group chemistry, ionic bonding, co-ordination chemistry and elementary symmetry theory. Energy, energy distribution in molecules. The first and second laws of Thermodynamics. Chemical equilibrium, reaction kinetics.

Practical: Fifty-eight (48) hours of practical work.

Assessment:

Coursework – Practical & Theory 25%

Final Examination 75%

CHEM 1062 (C10A)
BASIC CHEMISTRY FOR LIFE SCIENCES
(3 credits)

Syllabus:

The course is intended to provide students, who have had very little exposure to chemistry and who intend to proceed to degree level in the Life and Health Sciences, with a working knowledge of the basic concepts and principles of general and inorganic Chemistry including atoms, bonding, intermolecular Forces, quantifying matter, classes of reactions; Properties and reactions of carbon compounds including alcohols, aldehydes and ketones, carboxylic acids, esters and ethers, amines and amides, amino acids and peptides, natural polymers and stereochemistry and; physical chemistry including solutions rates of reactions, energy changes in physiochemical processes, kinetics and basic spectroscopy.

Assessment:

Coursework 25%

Final Examination 75%

CHEM 2015 (C20D)
SPECTROSCOPY
(4 credits)

Prerequisite: CHEM 1061 (C11D)

Syllabus:

Theory and Instrumentation. Application of UV-visible spectra to transition metal ions and organic molecules. I.R. spectra and their use in structural elucidation for organic, organometallic and inorganic systems. N.M.R. spectra of ¹H species and their applications to organic and organometallic systems. Other magnetic nuclei, e.g. ¹³C, ³¹P and ¹⁹F. Mass spectrometry and its application.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework – Practical & Theory 15%

Final Examination 85%

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CHEM 2025 (C20E)
KINETICS AND MECHANISM
(4 credits)

Prerequisites: CHEM 1060 (C11C) and CHEM 1061 (C11D)

Syllabus:

Theoretical aspects of chemical kinetics. Techniques for the study of slow and fast reactions. Photochemistry. General factors affecting reaction rates and mechanisms. Mechanisms of reactions with typical co-ordination polyhedra encountered in organic and inorganic chemistry; e.g., tetrahedral, square planar and octahedral geometries; linear free energy relationship.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework – Practical & Theory 15%
Final Examination 85%

CHEM 2160 (C20A)
MAIN GROUP CHEMISTRY
(4 credits)

Prerequisites: CHEM 1060 (C11C) and CHEM 1061 (C11D)

Syllabus:

Symmetry theory and point groups. Introduction to the chemistry of the elements. Chemistry of the hydrides, oxides and halides; organometallic chemistry of the p-block elements.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework – Practical & Theory 15%
Final Examination 85%

CHEM 2360 (C20C)
BASIC PHYSICAL CHEMISTRY
(4 credits)

Prerequisite: CHEM 1061 (C11D)

Syllabus:

Nuclear chemistry. The behaviour of gases, liquids and solids; principles of surface and colloid chemistry; principles of electrochemistry.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework – Practical & Theory 15%
Final Examination 85%

CHEM 2460 (C20F)
PRINCIPLES OF CHEMICAL ANALYSIS
(4 credits)

Prerequisites: CHEM 1060 (C11C) and CHEM 1061 (C11D)

Syllabus:

Introduction to qualitative and quantitative analysis; calibration of laboratory equipment; criteria for choice of a method of analysis; good laboratory practices; good measurement practices; methods of quantitation; basic statistics in analytical chemistry; errors in chemical analysis; sampling and sample preparation for chemical analyses; applications of spectroscopic and chromatographic methods of analysis.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework – Practical & Theory 15%
Final Examination 85%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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CHEM 3167 (C30A)
ADVANCED INORGANIC CHEMISTRY
(3 credits)

Prerequisite: CHEM 2160 (C 20A) or repeating CHEM 2160 (C20A)

Syllabus:

Application of Group Theory to bonding, LCAO and LGO description of bonding. Chemistry of the First Row Transition Metals including effects of Crystal Field Stabilisation Energy; physical, chemical and magnetic properties. Organometallic chemistry.

Practical: Thirty (30) hours of practical work.

Assessment:

One 2-hour written paper

CHEM 3168 (C31A)
ADVANCED TOPICS IN INORGANIC CHEMISTRY
(3 credits)

Prerequisite: CHEM 2160 (C20A)

Syllabus:

The chemistry of the 4d and 5d transition metals including metal cluster formation, homogeneous catalysis, bio-inorganic complexes. Inorganic polymers, oxide superconductors, heterocyclic rings and cages; heavy metals in the biosphere, other special topics in inorganic chemistry.

Practical: Thirty (30) hours of practical work.

Assessment:

One 2-hour written paper

CHEM 3267 (C30B)
BASIC ORGANIC CHEMISTRY II
(3 credits)

Prerequisite: CHEM 2260 (C20B) or repeating CHEM 2260 (C20B)

Syllabus:

Reactive intermediates in Organic Chemistry – carbenes, carbocations, radicals. Chemistry of heterocyclic systems, sugars and peptides.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework 25%

Final Examination 75%

CHEM 3268 (C31B)
CHEMISTRY OF NATURAL PRODUCTS
(3 credits)

Prerequisite: CHEM 2260 (C20B)

Syllabus:

Primary and secondary metabolites. The main biosynthetic pathways - evidence. The acetate-malonate pathway - polyketides. Mevalonic acid - terpenoids. Metabolites derived from shikimic acid. Amino acid - alkaloids; modern techniques for characterisation of natural products.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework 25%

Final Examination 75%

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CHEM 3269 (C32B)
ORGANIC SYNTHESIS

(3 credits)

Prerequisites: CHEM 2260 (C20B) and CHEM 3267 (C30B)

Syllabus:

C-C Bond forming reactions. Functional group interconversions. Selective reagents. Stereochemical control. Synthetic strategy. Retrosynthesis - bond disconnections and synthons.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework 25%

Final Examination 75%

CHEM 3367 (C30C)
**THERMODYNAMICS AND
STATISTICAL THERMODYNAMICS**

(3 credits)

Prerequisite: CHEM 2360 (C20C) or repeating CHEM 2360 (C20C)

Syllabus:

Advanced Thermodynamics: Systems of variable composition, phase equilibria, solutions, equilibria in non-ideal systems.

Statistical Thermodynamics: Microstates and configurations, Boltzmann distribution law, entropy, partition functions, ideal gas law, Sackur-Tetrode equation, applications of statistical thermodynamics.

Practical: Thirty (30) hours of practical work.

Assessment:

One 2-hour written paper

CHEM 3467 (C30F)
BASIC ANALYTICAL CHEMISTRY

(6 credits)

Prerequisite: CHEM 2460 (C20F)

Syllabus:

Troubleshooting; methods of validation of analytical methods; application of statistics in experimental designs, process optimisation and decision-making; spectroscopic methods of analysis; separation techniques; ion-selective electrodes; biochemical methods of analysis.

Assessment:

Coursework 15%

Final Examination 85%

CHEM 3468 (C31F)
ADVANCED ANALYTICAL CHEMISTRY

(6 credits)

Prerequisite: CHEM 3467 (C30F)

Syllabus:

Aspects of Laboratory management: Quality control and quality assurance; laboratory accreditation; hazardous waste management. Investigative techniques in chemistry; project planning and execution automated methods of analysis; modern spectroscopic methods of analysis; chromatographic and related techniques; radiochemical methods; polarography and related electrochemical methods; formulation science; analytical applications in forensic and clinical science, industry and the environment; the analytical chemist as an entrepreneur.

Assessment:

Coursework – Practical & Theory 15%

Final Examination 85%

CHEM 3566 (C30E)
ENVIRONMENTAL CHEMISTRY

(3 credits)

Prerequisite: At least three of CHEM 2160 (C20A), CHEM 2260 (C20B), CHEM 2360 (C20C), CHEM 2015 (C20D), CHEM 2025 (C20E), CHEM 2460 (C20F) or by permission of the Head of Department

Syllabus:

Introduction to the structure of the environment; the physiochemical characteristics and processes of natural waters: equilibrium, redox, and microbiological reactions; function and processes in the atmosphere: major element cycles, ozone, climate change, acid rain, smog; characteristics of, and processes in soils; sources, effects and control of selected water, air and soil pollutants; introduction to environmental analytical chemistry.

Practical: Thirty-six (36) hours of practical work.

Assessment:

Coursework 40%

Final Examination 60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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CHEM 3567 (C30G)

**INTRODUCTION TO POLYMER CHEMISTRY
(3 credits)**

Prerequisite: CHEM 2015 (C20D) or CHEM 2025 (C20E)

Syllabus:

Macromolecules, molecular weights, characterisation, step polymerisation, chain reaction polymerisation, co-polymerisation; polymer morphology, testing and characterisation; flow properties and elasticity; solubility, thermodynamics; polymer technology.

Practical: Thirty (30) hours of practical work.

Assessment:

Coursework 15%

Final Examination 85%

CHEM 3568 (C31C)

CORROSION SCIENCE

(4 credits)

Prerequisite: CHEM 2360 (C20C)

Syllabus:

Basic types of corrosion; basic electrochemical processes and concepts taking place in corrosion; corrosive characteristics of commonly encountered environments; basic concepts of metals relating to corrosion; various corrosion phenomena and methods of corrosion control.

Practical: Thirty-six (36) hours of practical work.

Assessment:

One 2-hour written paper

CHEM 3569 (C31G)

INDUSTRIAL CHEMISTRY I

(4 credits)

Prerequisite: CHEM 2160 (C20A), CHEM 2260 (C20B), CHEM 2360 (C20C), CHEM 2015 (C20D), CHEM 2025 (C20E), or permission from the Head of Department

Syllabus:

Overview of the Chemical Industry. Petrochemicals. Selected Products of the Chemical Industry – some major chemical commodities, other industrial products. Water in Industry. Chemicals from Sugar. Industrial Safety and Pollution in the Chemical Industry. Unit Operations: An Introduction. The Patent Literature. Coursework: This will consist of reports on site visits and a project.

Assessment:

One 3-hour written paper 60%

Coursework 40%

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CHEM 3660
RESEARCH PROJECT
(4 credits)

Prerequisites: CHEM 2160 (C20A); CHEM 2260 (C20B);
CHEM 2360 (C20C); CHEM 2015 (C20D); CHEM 2025
(C20E) and/or permission from the Head of Department.

Syllabus:

The project will be compulsory for all chemistry majors and will consist of 96 hours of practical work and the related requirements e.g. library work, lectures/seminars, meetings with supervisor(s), training on instruments etc. The student will be assigned a research problem carefully selected, bearing in mind the available time and resources, and will work under the supervision of a member of academic staff. The student will be required to do a literature review including an outline of the problem and the approach and methodology to be utilized. The student will plan and carry out experiments under supervision. On completion of the practical work, the student will be required to write up the project according to a specified format and submit the report by a given deadline for assessment. An oral presentation of ten minutes duration will also be required of the student at a public session to be held before the start of the semester final examinations.

Assessment:

Written Report	60%
Supervisor's Assessment	20%
Oral Presentation	20%

COMP 1100 (CS11E)
COMPUTER PROGRAMMING I
(6 credits)

Prerequisite: NONE

Syllabus:

Hardware, software, programming languages and program translation. Input, output and secondary storage devices. Basic language elements. Character set. Data types and data representation. Operators. Syntax, logic and run-time errors. Problem solving and programming. Algorithm development. Constants, variables, arithmetic and logical expression. Assignment, selection and repetition statements. Input/output statements. Object-Oriented Programming (OOP) concepts. Classes and objects. Methods. Static and instance variables. Over loading and polymorphism. String objects. User-defined classes. Utility classes. Arrays. Sequential and binary search. Simple sorting methods, e.g. selection, insertion, bubble. Merging of ordered lists. Application of the above principles to solving a wide variety of problems.

Assessment:

Coursework	25%
Examination	75%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 1200 (CS11F)
COMPUTER PROGRAMMING II
(6 credits)

Prerequisite: COMP 1100 (CS11E)

Syllabus:

Classes, objects, fields and methods. Constructor, accessor and mutator methods. Inheritance, abstract classes and polymorphism. Interfaces, inner classes and contracts. Information hiding. Data encapsulation. The concept of an Abstract Data Type. Specification and implementation of stacks, queues and lists. Collection classes. The Graphical User Interface. Components, layouts and event handling. Recursion. Files and exception handling. Two-dimensional arrays. Application of the above principles to solving a wide variety of problems.

Assessment:

Coursework	25%
Examination	75%

COMP 2000 (CS20A)
DATA STRUCTURES
(4 credits)

Prerequisite: COMP 1100 and COMP 1200 (CS11E and CS11F)

Syllabus:

Stacks, queues, linked lists. Methods for solving the 'search and insert' problem. Hashing. Hash function. Clustering. Methods of resolving collisions, e.g. linear, quadratic, chaining, double hashing. Trees. Binary trees. Search trees. Tree traversal. Analysis of binary search tree algorithm. Heaps. Priority queues. Internal and external sorting. Shell sort, quicksort, heapsort, mergesort. Polyphase merge sort. Technique of replacement selection. Topological sort. Abstract data types. Concepts, representation and implementation. Graph concepts and terminology. Representation of graphs. Depth-first and breadth-first traversals. Minimal cost paths. Minimal cost spanning trees. Efficiently storing and manipulating matrices with special properties, e.g. symmetric, triangular, band, sparse and others.

Examination:

One 2-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 2100 (CS20E)

DISCRETE MATHEMATICS FOR COMPUTER SCIENCE

(4 credits)

Prerequisite: MATH 1140 and MATH 1150 (M12A and M12B)

Syllabus:

Set Theory: Sets, Relations, Functions, Operations, Algebraic Systems. Numbers and Number Systems. Computer representation. Induction and Recursion.

Logic: Logic Functions, Boolean Algebras, Normal forms, Minimisation, Applications. Concepts of Combinatorics. Concepts of Number Theory.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 2200 (CS21E)

COMPUTER ARCHITECTURE

(4 credits)

Prerequisite: COMP 1100 and COMP 1200 (CS11E and CS11F)

Syllabus:

Digital Logic: Logic gates. Combinational logic functions, adders, comparators. Sequential logic, flip-flops, shifters, counters. Boolean algebraic manipulation.

Binary. One's and two's complement. Signed and unsigned. Biased, big-endian, little-endian. Fixed and floating point. Machine Code and Assembly Language: Instruction cycle, instruction sets, instruction formats. Addressing modes. Specialised registers. Stack manipulation.

Interrupt handling. Memory System Organisation: Storage technology. Memory hierarchy, cache, virtual memory, and associative stores. Latency, cycle time, bandwidth, interleaving. Peripherals and Input/Output: I/O control. Synchronisation. External storage. System bus arbitration. Direct memory access.

CPU Implementation: Control unit. Microprogramming. Formats. Function units. Arithmetic logic units. Floating point units.

Architectures: Varieties of instruction format. Complex instruction set. Reduced instruction set. Very large instruction word. Register windows. Architectural support for operating systems and compilers. Instruction level pipelining. Branch prediction. Data dependencies.

Examination:

One 2-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 2300 (CS22A)
PROGRAMMING FOR BUSINESS
APPLICATIONS
(4 credits)

Prerequisite: COMP 1100 and COMP 1200 (CS11E and CS11F)

Syllabus:

Basic Concepts: Fundamentals of information systems. Overview of accounting systems. Introduction to data processing. Business Information Systems: The revenue cycle (sales order processing, billing, accounts receivable). The expenditure cycle (purchasing, accounts payable). Value added tax management. Inventory control. Human resources management/payroll/PAYE. General ledger and financial reporting system. Access DBMS and Visual Basic for Access. Develop a database application (Tables, Queries, Forms, Reports). Event driven programming. VBA programming. Working with objects. Class modules. Multi-user applications.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 2400 (CS22B)
INFORMATION SYSTEMS
(4 credits)

Prerequisite: COMP 1100 and COMP 1200 (CS11E and CS11F)

Syllabus:

Overview of Computer Hardware and Software. The nature of data and information. Types of Information Systems. Identifying and selecting Systems Development Projects (SDPs), corporate and information systems planning. Initiating and planning SDPs, assessing project feasibility. Performing requirements determination: interviews, questionnaires, group interviews, direction observation, joint application design, prototyping. Process modelling: Data Flow Diagrams (DFDs), symbols, rules, decomposition, balancing, completeness, consistency, timing, iterative development. Logic Modelling: Structured English, decision tables, decision trees. Conceptual data modelling, entity-relationship diagrams. Selecting the best alternative design. Designing forms and reports. Assessing usability. Designing interfaces and dialogues, means of interaction. Finalising design specification: documents, charts, prototypes. System implementation, software testing, installation strategies, documentation, user training and support. Maintenance.

Examination:

One 2-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 2500 (CS24E)

OBJECT-ORIENTED PROGRAMMING I

(4 credits)

Prerequisite: COMP 1100 and COMP 1200 (CS11E and CS11F)

Syllabus:

Object-oriented software architectures. Object-oriented design. Classes and methods. Messages, instances, and initialisation. Inheritance and class hierarchies. Polymorphism. Composition. Visibility and dependency. Fundamental design patterns.

Examination:

One 2-hour written paper 75%

Coursework 25%

COMP 2600 (CS25E)

THEORY OF COMPUTING I

(4 credits)

Prerequisites: MATH 1140 and MATH 1150 (M12A and M12B)

Syllabus:

Alphabet and languages.
Finite automata and regular languages. State minimisation. Deterministic and non-deterministic finite automata. Algorithmic aspects of finite automata. Context-free languages and pushdown automata. Context-free grammars. Determinism and parsing.

Examination:

One 2-hour written paper 75%

Coursework 25%

COMP 2700 (CS27E)

DATABASE MANAGEMENT SYSTEMS I

(4 credits)

Prerequisite: COMP 1100 and COMP 1200 (CS11E and CS11F)

Syllabus:

Relational data model
SQL/Procedural SQL
Database design. ER Modeling. Normalization.
Query processing and Optimization
Transaction management. Concurrency. Recovery.
Databases and the Internet.

Examination:

One 2-hour written paper 75%

Coursework 25%

COMP 3000 (CS30E)

DESIGN AND ANALYSIS OF ALGORITHMS

(4 credits)

Prerequisite: COMP 2000 (CS20A)

Syllabus:

Review and analysis of data structures: stacks, queues, linked lists, hash tables, binary search trees, red-black trees, graphs, spanning trees. Analyse algorithms for time and space bounds. Growth of functions. Asymptotic notation. Recurrences: substitution, iteration, master method. Review and analysis of sorting methods: insertion sort, merge sort, heapsort, quicksort. Algorithms design techniques. Dynamic programming. Greedy algorithms. Divide-and-conquer algorithms. Graph algorithms. String matching algorithms. Approximation algorithms. Examples of problems which can be solved using each of these techniques.

Examination:

One 2-hour written paper 75%

Coursework 25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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**COMP 3100 (CS31A)
OPERATING SYSTEMS**

(4 credits)

Prerequisite: COMP 2200 (CS21E)

Syllabus:

Introduction to a systems programming language. Overview of Von Neumann computer architecture.

Processes: Process creation/destruction, implementation, process table entries.

Process Management: Context switching, interrupt handling, inter-process communication, race conditions, mutual exclusion, critical regions, busy-waiting solutions, sleep-wakeup solutions, scheduling algorithms.

Deadlocks: Pre-emption, necessary conditions, deadlock modelling, detection, avoidance, prevention.

Memory Management: Multiprogramming, relocation and protection, swapping, bit-mapped management, linked-list management, partition management, virtual memory.

Virtual Memory: Pages, page frames, page tables, address translation, Memory Management Unit (MMU), page faults, translation look aside buffers, and page replacement algorithms.

File Systems: Contiguous allocation, linked-list allocation, index nodes, implementing directories.

Disk Performance

Optimisation: Seek optimisation strategies.

Input/Output: Device controllers, I/O ports, memory-mapped I/O, direct memory access, interrupt handlers, device drivers.

Resource Protection: Protection domains, access matrices, access lists, capabilities lists, lock-key mechanisms.

Examination:

One 2-hour written paper 75%

Coursework 25%

**COMP 3150 (CS32A)
COMPUTER NETWORKS**

(4 credits)

Prerequisite: COMP 3100 (CS31A)

Syllabus:

Computer Networks and the Internet. The Internet. Network edge and core. Network access and physical media. Protocol layers and their Service models. The Application Layer. Principles of application layer protocols. HTTP, FTP, Email, SMTP, DNS etc. Socket programming with TCP and UDP. The Transport Layer. Transport-layer services. Multiplexing and demultiplexing. UDP and TCP. Reliability. Congestion control. The Network layer and Routing Service models. Routing. IP. Mobility. Link Layer and Local Area Networks Services. Error detection and correction. Multiple access protocols. Ethernet. Network hardware. Wireless links. PPP. Frame Relay. Multimedia Networking. Streaming stored audio and video. Types of services. Protocols for real-time Interactive Applications. Introduction to Network Design. The network design process. Common WAN, LAN and backbone designs. Examples.

Examination:

One 2-hour written paper 75%

Coursework 25%

**COMP 3250 (CS32F)
SOFTWARE ENGINEERING**

(4 credits)

Prerequisite: COMP 2000 (CS20A)

Syllabus:

Software processes. Software requirements and specifications. Software design and implementation. Verification and validation. Software tools and environments. Software project methodologies. Quality assurance and metrics.

Examination:

One 2-hour written paper 75%

Coursework 25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 3300 (CS33E)
PROGRAMMING LANGUAGES I
(4 credits)

Prerequisite: COMP 2000 (CS20A)

Syllabus:

This course will focus on two programming paradigms: imperative and logic. For the imperative paradigm, the programming language C (or any other language representative of this paradigm) will be used. For the logic programming paradigm, the programming language Prolog (or any other language representative of this paradigm) will be used.

The Imperative Programming Paradigm: Basic types. Expressions and statements. Functions/procedures and program structure.

Arrays, pointers. Structures/records. Structures input/output. File input/output.

The Logic Programming Paradigm. Motivation and introduction. Knowledge bases, unification and variable instantiation, backtracking, relations, conjoined goals, disjoint goals, negative goals, equality testing. Structures and operators, Input/output. Problem-solving strategies.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3350 (CS33F)
PROGRAMMING LANGUAGES II
(4 credits)

Prerequisite: COMP 2000 (CS20A)

Syllabus:

This course will focus on two programming paradigms: object-oriented and functional. For the object-oriented paradigm, the programming language Smalltalk (or any other language representative of the paradigm) will be used. For the functional programming paradigm, the programming language Haskell (or any other language representative of this paradigm) will be used.

The Object-Oriented Programming Paradigm: Mechanisms for defining classes and instances. Object creation and initialisation. Composition, inheritance and dynamic dispatch. Distinction between sub-typing and inheritance. Introduction to Object-Oriented Design –the RDD approach. Run time representation of objects and method tables. Advanced OO type problems.

The Functional Programming Paradigm: Motivation. Basic Types. Recursion over natural numbers, lists, trees and other recursively-defined data.

Functions as values. Higher order functions. Overloading and type classes. Abstract data types. Lazy programming.

Examination:

One 2-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 3400 (CS33B)
ARTIFICIAL INTELLIGENCE
(4 credits)

Prerequisite: COMP 2000 (CS20A)

Syllabus:

The concept of problem solving as search through a state space. Basic search algorithms. Depth-first, breadth-first, best-first, hill-climbing, branch-and-bound, A*. Mini-max algorithm with alpha-beta pruning. Logic and theorem proving. Propositional logic. First order predicate logic. Unification. Clausal form. Resolution theorem proving. Natural language processing. Parsing expressions. Semantic transition trees. Planning. Basic goal regression using STRIPS type actions. Production rule systems. Basic concepts. An expert system shell.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3500 (CS34M)
INTERNET TECHNOLOGIES I
(4 credits)

Prerequisite: COMP 2500 (CS24E)

Syllabus:

Overview of networking. The TCP/IP stack. Domain name resolution.
The Hypertext Transfer Protocol (HTTP): headers, requests, responses, content-negotiation, caching.
The Extensible Hypertext Mark up Language (XHTML): XML syntax, XHTML DTDs, document structure, text formatting elements, images, tables, forms, links, image maps.
Cascading Style Sheets (CSS): separation of content and presentation, selectors, declarations, conflict resolution.
Client-side scripting: Control of document appearance and content, browser control, user interaction, window manipulation, client-side object hierarchy, cookies, animation.
Applets: Class hierarchy, graphical user interface elements, event handling, component layouts, drawing graphics, applications.
Extensible Mark up Language (XML): Advantages and applications, Document Type Definitions (DTDs).

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3550 (CS34N)
INTERNET TECHNOLOGIES II
(4 credits)

Prerequisite: COMP 3500 (CS34M)

Syllabus:

Introduction to a server-side scripting language. Review of the Hypertext Transfer Protocol.
The Common Gateway Interface (CGI): Environment variables, forms, templates, security, email, data persistence, maintaining state, searches, graphics.
Servlets: Class hierarchy, CGI variables equivalent, cookies, session tracking, applet/servlet interaction.
Java Servlet Pages (JSP): Scripting elements, expressions, scriptlets, declarations, directives, custom libraries.
Server-side database connectivity: Drivers, connections, SQL queries, result sets.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3600 (CS35E)
THEORY OF COMPUTING II
(4 credits)

Prerequisite: COMP 2600 (CS25E)

Syllabus:

Turing machines. Computing with Turing machines.
Extensions of Turing machines. Nondeterministic Turing machines. Grammars. Undecidability. The Church-Turing Thesis. The halting problem. Unsolvable problems.
Recursively enumerable languages. Chomsky hierarchy.
Computational complexity: Classes P and NP. NP-completeness. Special topics, e.g. Methods of tackling NP-hard problems.

Examination:

One 2-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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COMP 3650 (CS36E)

PROGRAMMING LANGUAGE TRANSLATION

(4 credits)

Prerequisite: COMP 2000 (CS20A)

Syllabus:

Language translation phases: lexical analysis, parsing, code generation, optimisation. Comparison of interpreters and compilers. Deterministic and non-deterministic finite state machines. Regular expressions. Grammars and languages. Top-down and bottom-up methods of parsing. Recursive descent. SLR, LR and LL methods. Internal code – quadruples and Polish notation. Code generation for common control structures (while, if, then, else, for). Optimal evaluation of Boolean expressions.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3700 (CS37E)

DATABASE MANAGEMENT SYSTEMS II

(4 credits)

Prerequisite: COMP 2700 (CS27E)

Syllabus:

Database Life cycle
Transaction management and concurrency control. Database recovery management
Performance query optimization
Database administration
Distributed database
Internet technologies and Databases. Databases and XML
Object –oriented databases. Database modeling with UML.
Data warehousing

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3750 (CS37A)

NUMERICAL COMPUTING

(4 credits)

Prerequisite: MATH 1140 and MATH 1150 (M12A and M12B)

Syllabus:

Introduction to MATLAB. Review of Calculus, Binary Numbers, Error Analysis. Solution of Non-linear Equations. Solution of Linear Systems.
Interpolation and Polynomial Approximation. Numerical Differentiation and Integration.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3800 (CS38E)

CRYPTOGRAPHY AND SECURITY

Prerequisite: COMP 2100 (CS20E)

Syllabus:

Classical Cryptography. Shift cipher. Substitution cipher. Permutation cipher. Other ciphers. Cryptanalysis applicable to these encodings. Shannon's Theory. Entropy. Huffman encodings. Keys. Cryptosystems. Data Encryption Standard. Block ciphers and the Advanced Encryption Standard. Cryptographic hash functions. Internet Security.

Examination:

One 2-hour written paper	75%
Coursework	25%

COMP 3900 (CS39A)

SPECIAL TOPICS IN COMPUTER SCIENCE

(4 credits)

Prerequisites: COMP 1100 and COMP 1200 (CS11E, CS11F) and 2 relevant advanced courses

Topics:

Graphics. Computer Assisted Design (CAD). Computer Assisted Education (CAE). Speech synthesis. Advanced processor architecture.
Expert systems. Computability and complexity. Proof of correctness of programs. Image Processing. Any other approved topics.

The particular topic taught may change from year to year.

Examination:

One 2-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

COMP 3990 (CS39E)

PROJECT

(4 credits)

Prerequisite: This course is available only to final year students who are majoring in Computer Science at the discretion of the Head, Department of Mathematics & Computer Science. Approval will depend on the student's performance to date in Computer Science

Syllabus:

There will be six (6) to eight (8) lectures on the following:

- assessing project feasibility;
- methods of investigation;
- project reporting and presentation;
- project management.

Students will be required to do a research project in some topic in Computer Science. This may include design and implementation of an approved piece of software.

Examination:

Project report **80%**

Oral presentation **20%**

ECON 1005 (EC16A)

INTRODUCTION TO STATISTICS

(3 credits)

Syllabus:

Descriptive Statistics; Probability and Probability distributions, Sampling distributions, Estimation, Hypothesis testing, Simple correlation and regression.

Assessment:

Coursework

Examination

FOUN 1101 (FD11A)

CARIBBEAN CIVILISATION

(NOT for Humanities students)

Objectives:

1. To develop an awareness of the main process of cultural development in Caribbean societies, highlighting the factors, the problematics and the creative output that have fed the emergence of Caribbean identities.
2. To develop a perception of the Caribbean as wider than island nations or linguistic blocs.
3. To stimulate students' interest in, and commitment to Caribbean civilisation and to further their self-definition.

Modules:

1. Origins
 - I Caribbean space / physical environment / Amerindian peoples and Cultures: their legacy.
 - II European conquest, settlement and demographic changes.
2. Fighting for Freedom
 - I Slavery, marronage and rebellion.
 - II New in/out- migration, indenture, and their consequences: 19th and 20th centuries.
3. Quest for Identity
 - I Race and nationalism.
 - II Independence, dependence and regionalism.
 - III Creolisation and ethnic identity.
4. Ideas, Ideologies and Theologies
 - I Education/religion in the Caribbean.
 - II Caribbean Intellectual Traditions.
5. Caribbean Expressions
 - I Caribbean music - Calypso, Reggae.
 - II Caribbean festivals.
 - III Sports.
 - IV Caribbean voices - French, English, Spanish, Linguistic Identity.

Evaluation:

In-course test **40%**

Final 2-hour examination **60%**

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

FOUN 1102 (FD11B)

ACADEMIC WRITING FOR DIFFERENT DISCIPLINES

The aim of this course is to develop students writing skills in areas related to their academic disciplines. There will be twenty-four (24) contact hours. Classroom activity will be supplemented by printed materials.

OPTIONS

Option A

Writing about Literature (Compulsory for Literatures in English Majors)
Critical Reading
Writing the Critical Analysis

Option B

Argument and Report Writing
Report Writing
Logical Argument

Option C

Scientific and Technical Writing
Technical Description
Expository Writing for Scientific and Technical Purposes

Evaluation:

Coursework 50%

Final Examination 50%

Students must pass both coursework and final examination in order to qualify for an overall pass in the course.

* Highly recommended for students in the Faculty of Science & Agriculture.

Attendance Regulation:

A student in any of the Foundation courses in English Language who misses two (2) out of any six (6) class hours will be warned, and after two warnings any further absence without prior permission or an acceptable medical certificate will result in automatic exclusion from the examination.

FD12A

Not offered to FSA Students.

FOUN 1301 (FD13A)

LAW, GOVERNANCE, ECONOMY AND SOCIETY (UNIVERSITY FOUNDATION COURSE)

(3 credits)

(Faculty of Social Sciences)

This course is delivered through the medium of print. The print package comprises a student manual, a study guide and a reader. In addition to the print material there are teleconferencing and/or tutorials.

The course introduces students to some of the major institutions in Caribbean society. It exposes the student to both the historical and contemporary aspects of Caribbean society, including Caribbean legal, political and economic systems. In addition, Caribbean culture and Caribbean social problems are discussed.

Assessment is based solely on a final examination at the end of the semester. It consists of twelve (12) essay-type questions, of which students are required to write on three (3). All questions carry equal marks. The examination is divided into four (4) sections corresponding to the four (4) subject areas in the course. Students are not allowed to do more than one question in any one section.

FINM 2060 (MS28D)

FINANCIAL MANAGEMENT I

(3 credits)

Prerequisites: ACCT 1010, (MS15E, EC14E)

Syllabus:

This course is concerned with the core concepts of financial decision-making: the time-value of money, the cost of capital and trade-offs between risk and return. Students should develop a thorough understanding of these basic concepts and how to apply them in real-world examples.

Assessment:

Coursework

Final Examination

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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GENS 3260 (NS21B)
GENDER AND SCIENCE
(4 credits)

This course is an elective for all majors in the Faculty of Science & Agriculture and is offered to students in the Faculty of Social Sciences and Humanities wishing to do a minor in Women Studies.

Prerequisites: Successful completion of 16 Level 1 credits

Syllabus:

A critical analysis of selected major papers published during the period 1980 – present which deal with the following:

- The masculinist nature of Science
- Women in Science
- Language and metaphors in Science
- Critiques of the Scientific Method
- Impact of Science on society; ethical issues; indigenous knowledge; public perception of Science

Teaching Approaches:

Two 2-hour sessions for twelve (12) weeks using interactive teaching methods. A research project will be assigned for which a research journal will be kept, and an oral presentation made at the end.

Assessment:

Coursework	40%
• Research journal	10%
• Project report	20%
• Oral presentation	10%
Final 2-hour Theory paper	60%

HUEC 1001 (AH10C)
FOOD SCIENCE
(5 credits)

Syllabus:

Structure and functional properties are examined with respect to the molecular behaviour of the basic components common to food products. Also discussed is the chemistry of changes occurring during processes, distribution and utilisation. Other topics include principles of Food Preservation by chilling, freezing, irradiation, dehydration, fermentation and thermal processing; food regulations and inspection systems and the relationships between packaging materials, food processing operations and product quality.

Assessment:

Coursework	40%
Final Examination	60%

HUEC 1003 (AH12B)
INTRODUCTION TO NUTRITION
(3 credits)

Syllabus:

Concepts of nutrition in relation to health. Food as a source of nutrients. Nutrient composition of foods. Properties, functions, requirements, inter-relationships and metabolism of nutrients in humans.

Assessment:

Coursework	25%
Final Examination	75%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 1004 (AH13B)
INTRODUCTION TO FOODS AND MEAL
MANAGEMENT
(3 credits)

Syllabus:

Principles involved in preparation of food of standard quality. Influence of composition and techniques on properties of food products. Standard methods of food preparation with emphasis on quality, nutrient retention and safety. At least one field trip is scheduled for this course.

Assessment:

Coursework – Practical & Theory	50%
Final Examination	50%

HUEC 1005 (AH12C)
INTRODUCTION TO BIOSTATISTICS
(3 credits)

Prerequisite: Mathematics at the CSEM level or equivalent.

Syllabus:

This course covers the principal statistical concepts used in biostatistics. Basic concepts common to all statistical analyses are reviewed, and those concepts with specific importance in biostatistics are covered in detail. The course introduces students to concepts and application of biostatistics methods including descriptive statistics, exploratory data analysis, probability distributions, sampling distributions, estimation and hypothesis testing. Students will develop skills that will enable them to compare means of two groups, proportions of two groups and means and proportions of more than two groups. The course concludes with risk measurement, analysis of variance and Simple Linear Regression. Readings and assignments would complement lectures to assist students in developing basic biostatistics competencies.

Assessment:

Final Examination	60%
Coursework	40%

HUEC 2000 (AH20A)
BIOCHEMISTRY
(3 credits)

Prerequisite: BLO5C and A-level Chemistry or equivalent

Syllabus:

Chemistry of biological compounds: Carbohydrates, lipids, amino and proteins, nucleic acids etc., pH and buffers, metabolism of energy yielding compounds (bioenergetics); internal and hormonal regulation of metabolic pathways; molecular genetics and implications for the future of clinical nutrition practice.

Assessment:

Final Examination	75%
Mid-term Examination	25%

HUEC 2001 (AH21A)
BASIC HUMAN ANATOMY AND PHYSIOLOGY
(3 credits)

Prerequisite: A-level Biology or equivalent

Syllabus:

The integration of the sciences of human anatomy, physiology and pathology. Functional anatomy with emphasis on basic principles and physiological activities of the different systems of the human body in health and disease.

Assessment:

Coursework - 3 Quizzes	30%
Final Examination	70%

HUEC 2002 (AH22A)
NUTRITION THROUGHOUT THE LIFE
CYCLE
(3 credits)

Prerequisite: HUEC 1003 (AH12B)

Syllabus:

Nutritional requirements for growth and development throughout the life cycle. Analysis of nutrition assessment indicators for each age group. Special consideration to growth standards, maternal weight gain, pregnancy and lactation requirements, eating behaviour of various age and other groups. The physiology of aging as it relates to nutrient adequacy in the mature adult.

Assessment:

Coursework	30%
Final Examination	70%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 2003 (AH23A)
FOODSERVICE SYSTEMS MANAGEMENT
(Organisation, Management and Operations)
(3 credits)

Prerequisite: HUEC 1004 (AH13B)

Syllabus:

The application of Principles of Management to foodservice operations and human resources. Technical and operational aspects in the design of foodservices; including menu planning and evaluation, purchasing, receiving and storage of food and supplies, financial control, inventory control, food delivery and service, sanitation and safety, quality assurance and continuous quality improvement.

Assessment:

Coursework	25%
Final Examination	75%

HUEC 2004 (AH23B)
FOODSERVICE SYSTEMS MANAGEMENT
(Equipment, Layout and Design)
(3 credits)

Prerequisite:

Syllabus:

Introduction to architectural drawings, symbols and design features; reading and interpreting blue-prints; analysis of layout characteristics; principles of workflow and work simplification; sanitation requirements in layout and design; materials used in construction of facilities and equipment in relation to use and care; environmental elements. Determining equipment requirements and writing specifications; equipment purchasing procedures; utilities and services in relation to selection of equipment; energy control; principles of refrigeration and cooling; operation, use and care of equipment. Approximately three (3) field trips are scheduled for this course.

Assessment:

Coursework	25%
Final Examination	75%

HUEC 1006 (AH24B)
BASIC APPAREL CONSTRUCTION
(3 credits)

Prerequisite:

Syllabus:

This course introduces students to the major aspects of apparel production including pattern making methods, and use of the sewing machine. Course includes apparel production terminology and garment construction techniques. Covers data manipulation, drafting a skirt block and creating a complete pattern.

Assessment:

Coursework	40%
Final Examination	60%

HUEC 1007 (AH24C)
INTRODUCTION TO TEXTILES
(3 credits)

Syllabus:

Introduction to the structure and properties of textiles. Consumer use and fabric characteristics are emphasised.

Assessment:

HUEC 2008 (AH24D)
PSYCHOLOGICAL ASPECTS OF APPAREL
(3 credits)

Syllabus: New course – to be developed

A study of the theory and research findings pertaining to the social and psychological aspects and appearance in relation to the self, interpersonal, group and societal behaviour.

Assessment:

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 2009 (AH25B)
FAMILY RESOURCE MANAGEMENT
(3 credits)

Prerequisite:

Syllabus:

Concepts of Management. Nature and scope of 'management' as a function of families. Factors affecting and influencing the economic well-being of families with focus on Income Distribution, Spending Patterns, Inflation and Social Policies. Basic principles of money management - Budgeting, Record-keeping, Savings and Investments, Consumer Credit and Insurance. Personal and family financial considerations for home ownership, home rental and home improvements.

Assessment:

Coursework 25%

Final Examination 75%

HUEC 2011 (AH21B)
PHYSIOLOGY IN HEALTH AND DISEASE
(3 credits)

Prerequisite: AH21A Basic Anatomy and Physiology

Syllabus:

This course provides a thorough grounding on the physiological responses and adaptations of the human body in disease states and stressful activity including sports and exercise. Emphasis is given to the interdependence of response mechanisms.

Assessment:

In-course 40%

Final Examinations 60%

Not Offered In 2005/06

HUEC 2012 (AH20C)
NUTRITION ASSESSMENT FOR SPORTS
(3 credits)

Prerequisite: AH 12B Introduction to Nutrition

Co-requisite: AH21A Basic Human Anatomy and

Physiology

Syllabus:

Athletes and other physically active persons pose a challenge nutritionally because of the physical demands required to enhance their performance. Nutritionally needs vary according to the intensity, duration and the nature of the physical activity. This course provides the fundamentals for assessing the nutritional needs of physically active person and athletes. Topics include, meal planning for peak performance, development and testing of nutritional assessment and sport and activity questionnaires, computerized dietary analysis, anthropometric methods, techniques in sports nutrition counseling.

Assessment:

In-course 40%

Final Examinations 60%

Not Offered In 2005/06

HUEC 2013 (AH20B)
PRINCIPLES OF DIETETICS
(3 credits)

Prerequisite: AH12B; AG16A

Co-requisite: AH21A; AH26B

Syllabus:

This course provides the fundamental material necessary for understanding concepts taught in Medical Nutrition Therapy I and II. Topics include the history, ethics, practice and terminology for professionals in Nutrition and Dietetics, Nutrition Assessment and Documentation, Nutrient-Drug Interaction, alternative and complementary therapies, and nutrition support in the management of the nutrition care process.

Assessment:

Final Examination 70%

Coursework Examination 30%

Not Offered In 2005/06

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 2014 (AH26B)
NUTRITION AND METABOLISM
(3 credits)

Prerequisite: HUEC 1003 (AH12B)

Syllabus:

The integration and contribution of related scientific disciplines to the study of nutrition. The physiological aspects of nutrition: digestion, absorption, transport and exchange in normal and specialised cells; utilisation of the essential nutrients emphasising regulatory mechanisms at cellular and organ levels; nutrient interrelationships.

Assessment:

Coursework – 3 assignments 30%

Final Examination 70%

Not Offered In 2005/06

HUEC 2015 (AH23C)
FOOD QUALITY AND SAFETY
(3 credits)

Prerequisite:

Syllabus:

Not Offered In 2005/06

HUEC 3000 (AH31B)
FLAT PATTERN DEVELOPMENT
(3 credits)

Prerequisite: HUEC 1003 (AH12B)

Syllabus:

This course introduces basic industrial techniques of pattern making. The principles and procedures governing the development and use of basic slopers, and the use of manual flat pattern methods to develop patterns by varying a master pattern form given or self designed sketches are covered. Emphasis is on the design process culminating in the designing of original apparel by the flat pattern method.

Assessment:

Mid-term Examination 15%

Practicals 25%

Final Examination 60%

HUEC 3001 (AH32A)
COMMUNITY NUTRITION
(3 credits)

Prerequisite: HUEC 2002 (AH22A), HUEC 2010 (AH26B)

Syllabus:

Functions and effectiveness of various community-based nutrition related resources, services and programmes along with government policy and systems that influence them; sociocultural factors affecting nutritional status; evaluation of nutrition education programmes; health promotion; assessment of nutritional status through the identification of major nutrition problems at the local, national and international levels; nutrition surveillance; food and nutrition policy and planning; research.

Assessment:

Coursework 25%

Final Examination 75%

HUEC 3002 (AH33A)
FOODSERVICE SYSTEMS MANAGEMENT
(Quantity Foods)
(3 credits)

Prerequisite: HUEC 1004 (AH13B)

Syllabus:

Standards and methods of quantity food production and management; Experiences and case studies in planning for production, recipe standardisation, use of quantity foodservice equipment, nutrient and quality preservation, portion control, merchandising and service, cost calculations, energy management; quality control.

Assessment:

Coursework 40%

Final Examination 60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 3004 (AH33B)

FOOD PRODUCT DEVELOPMENT

(3 credits)

Prerequisite: HUEC 1001 (AH10C)

Syllabus:

Application of food science principles and experimental procedures to problems in foods. Practical investigations, experimental techniques leading to experience in developing a product; organising taste panels for sensory evaluation and acceptance of product; market testing; market research; patents; packaging, labelling; marketing; advertising.

Assessment:

Project 15%

Mid-Term Examination 10%

Final Examination 75%

Not Offered In 2005/06

HUEC 3005 (AH34A)

MEDICAL NUTRITION THERAPY I

(3 credits)

Prerequisites: HUEC 2010 (AH26B), HUEC 2000 (AH20A), HUEC 2001 (AH21A), HUEC 2002 (AH22A), AH20B.

Syllabus:

Medical Nutrition Therapy I focus on the physiological and biochemical anomalies of disease and the adaptation of diet in the treatment or prevention of disease; application of the principles and concepts of nutrition therapy to meet nutrient, medical, social and psychological needs of patients. It develops the knowledge base needed to assess, plan, implement, and evaluate the nutrition care process. Topics include nutritional management in disease of the Oral cavity, Digestive system, Upper and Lower Gastrointestinal tract, Liver, Biliary system and Exocrine pancreas, Energy balance and weight control, Endocrine system and Metabolic disorders, Cardio-vascular and Pulmonary disease.

Assessment:

Coursework 30%

Final Examination 70%

HUEC 3006 (AH34B)

MEDICAL NUTRITION THERAPY II

(3 credits)

Prerequisites: HUEC 2010 (AH26B), HUEC 2000 (AH20A), HUEC 2001 (AH21A), HUEC 2002 (AH22A), AH20B

Co-requisite: HUEC 3005 (AH34A)

Syllabus:

Medical Nutrition Therapy II is a continuation of Medical Nutrition Therapy I, which involves the study of the physiological and biochemical anomalies of disease and the adaptation of the diet in the treatment or prevention of disease; application of the principles and concepts of nutrition therapy to meet nutrient, medical, social and psychological needs of patients. It develops the knowledge base needed to assess, plan, implement, and evaluate the nutrition care process. Topics include the nutritional management of physiological stress and hypermetabolic conditions e.g. Illness, Infection, Surgery / Trauma and Burns, Cancer and HIV/AIDS, Renal disease, Anemia, Low birth weight infant, Nervous system, Food allergy and Food Intolerances.

Assessment:

Coursework 30%

Final Examination 70%

HUEC 3007 (AH35A)

LAW AND THE FAMILY

(3 credits)

Prerequisite:

Syllabus:

Family law, consumer laws and the rights of the consumers with respect to the variety of goods and services offered in the society, such as health, clothing, shelter and the use of leisure without infringing the rights of others. Laws applicable to the processing, packaging, labelling and distribution of food, food safety and nutritive value. Laws of major food regulatory agencies.

Assessment:

Coursework 25%

Final Examination 75%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 3008 (AH35B)
CHILD DEVELOPMENT
(3 credits)

Prerequisite:

Syllabus:

Focus on the physical/motor, intellectual, social and psychological personality aspects of the development of children throughout the life cycle; Stages of infancy; childhood, pre-adolescence and adolescence, and the influences of family, school and society. Topics include theories of brain development, general development trends, physical development at pre-adolescence, the growth spurt, sexual maturation, Piaget's theory of cognitive development, Erickson's stage theory of personality development, Kohlberg's theory and implications for education; Self-concept development.

Assessment:

Mid-term Examination	25%
Final Examination	75%

HUEC 3009 (AH36A)
EQUIPMENT PRINCIPLES
(3 credits)

Prerequisite:

Syllabus:

Utilisation of water, electricity and gas for doing work and maintaining health, safety and comfort in the home environment. Selection and use of appliances as related to consumer needs, interests and resources.

Assessment:

Final Examination	100%
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Not Offered In 2005/06

HUEC 3010 (AH37A)
HOUSING AND THE ENVIRONMENT
(3 credits)

Prerequisite:

Syllabus:

Physical, cultural, economic, social and personal factors pertinent to the provision and performance of housing. Functionality of residential interiors with respect to ergonomics, lighting, comfort and health. Water and sanitation; safety; siting, land use and planning concerns; transportation.

Assessment:

Mid-semester examination	15%
Semester Paper	15%
Final Examination	70%

HUEC 3011 (AH37B)
ADVANCED TEXTILE
(3 credits)

Prerequisite: HUEC 1007 (Introduction to Textile)

Syllabus: New course – to be developed

Recent advances in the production and performance of fibres, yarns, finishes and dyes for textile products. Laboratory experiences designed to provide a familiarity with the standards, methods and equipment for evaluating textile product performance.

Assessment:

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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HUEC 3012 (AH312)

PROJECT

(4 credits)

Syllabus:

A project within a subject area relevant to the student's degree option.

Assessment:

Project Report	85%
Oral Presentation	15%

* See Project Booklet for detailed guidelines

HUEC 3013 (AH37C)

ADVANCED APPAREL DESIGN AND CONSTRUCTION

(3 credits)

Prerequisite: AH24B/HUEC 1006 (Basic Apparel Construction)

Principles of advanced techniques for apparel construction with emphasis on new, difficult to handle fabrics.

Assessment:

Not Offered In 2005/06

HUEC 3014 (AH32B)

ADVANCED APPAREL DESIGN AND CONSTRUCTION

(3 credits)

HUEC 3014 (AH32B)

NUTRITION IN SPORTS AND FITNESS

(3 credits)

Prerequisite: AH12B, AH21A

This course will provide a basic grounding in human nutrition as it relates to sport and physical activity. Topic will include; brief history of nutrition and exercise, philosophy of sports nutrition, overview of the physiology and biochemistry of exercise, carbohydrate, lipid and protein metabolism during exercise, water and electrolyte balance during exercise, determination of body composition and energy expenditure in athletes, nutrition and exercise in weight control, designing and analysis of diets for training, during competition and post competition.

Assessment:

In-Course examination	20%
Practicals	20%
Final Examination	60%

Not offered in 2005/06

HUEC 3015 (AH32C)

NUTRITION AND HEALTH IN SPORTS PERFORMANCE

(3 credits)

Prerequisite: AH12B, AH21A

Syllabus:

This course follows on from NUTRITION AND FITNESS I and provides the platform for an evidence-base perspective of the role of nutrition in sports and physical activity. Topics will include introduction to research methods in nutrition and sports, how to read and critique a piece of published work on sports nutrition, evaluation of dietary analysis and physical performance software, antioxidants in sports and fitness, minerals in sports and fitness, nutritional issues for active persons with special needs, ergogenic aids and physical performance, nutritional problems of athletes, nutritional counseling of athletes and physically active persons.

Assessment:

In-course examinations	20%
Practicals	20%
Final Examinations (2-hours)	60%

Not Offered In 2005/06

HUEC 3016 (AH34C)

NUTRITION IN HEALTH AND DISEASE

(4 credits)

Prerequisites: AH 12B Introduction to Nutrition; AH21A Basic Anatomy and Physiology

Syllabus:

With the exponential increases in the number of studies linking nutrition to the prevention and treatment of disease there is an urgent need for an evidence-based approach to understanding reliability and validity of research findings. This course provides a foundation for understanding the role of nutrition in health and disease states. Topic include evaluating nutrition research, diet and human development, nutrition and diseases of the intestinal tract, nutrition and cardiovascular diseases, nutrition and diabetes, obesity, nutrition and cancer, nutrition and bone development, nutrition and immunity.

Assessment:

In-course	40%
Final Examinations	60%

Not Offered In 2005/06

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
The Faculty of Science & Agriculture

HUEC 3017 (AH31D)
COMPUTER AIDED PATTERN
DEVELOPMENT
(3 credits)

Prerequisites: AH24B; AH24C; AH24D

Syllabus:

This course builds on the introductory course in Flat Pattern Development. It incorporates and addresses the integral value of computer technology within the fashion system with modules focusing on textile developments and digital pattern design in fashion. Students would be required to develop advanced patterns for garments by draping fabric and using a computer-aided design system.

Assessment:

Coursework (Project) 75%

Examination 25%

Not Offered In 2005/06

HUEC 3018 (AH37D)
FASHION INDUSTRY AND BUSINESS
(3 credits)

Prerequisites: AH24B; AH24C; AH24D

Syllabus:

This course presents an overview of the global fashion industry. It looks at structure, size and scope and the range of entrepreneurial activities/opportunities and careers. From this introduction the local/regional industry is studied from the viewpoint of the entrepreneur. Trends in the fashion industry are considered in term of preferences by age groups and demographics; trends in business growth areas are also considered. Entry requirements and strategies for the local/regional industry are considered for emerging entrepreneurs. The course includes lectures / seminars by various consultants in the fashion and fabric industries.

Assessment:

Coursework (Project) 40%

Examination 60%

Not Offered In 2005/06

HUEC 3019 (AH38A)
COMPUTER AIDED DESIGN FOR THE
FASHION INDUSTRY
(3 credits)

Prerequisites: AH24B; AH24C; AH24D

Syllabus:

This course covers the use of computers in the innovative design of clothing and other products for the fashion industry. It involves the creation and development of original designs applicable to the Caribbean fashion industry, using flat pattern and/or draping techniques. Students will be introduced to a number of computer software used in the fashion industry and shown the application of product data management in the industry. Students will also be introduced to the preparation of a professional portfolio comprising cad and other illustrative materials reflecting individual capability.

Assessment:

Coursework (project) 60%

Examination 40%

Not Offered In 2005/06

HUEC 3020 (AH33C)
DEVELOPMENT OF CARIBBEAN CUISINE
(3 credits)

Prerequisite:

Syllabus:

The development of unique Caribbean cuisine based on indigenous products presents significant opportunities for entrepreneurial growth and development in the Food Industry and Food Service sector. This course focuses on the application of food science principles and food safety systems such as food laws and regulations.

Assessment:

Practicals/Field Visits 75%

Research Project 25%

Not Offered In 2005/06

HUEC 3021 (AH39C)
PRACTICUUM
Not Offered In 2005/06

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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HUEC 500 (AH51A)

**ADVANCED FOODSERVICE SYSTEMS
MANAGEMENT**

Prerequisite: HUEC 2003 (AH23A), HUEC 2004 (AH23B),
HUEC 3002 (AH33A), and HUEC 3004 (AH33B) or equivalent

Syllabus:

A comprehensive review of the organisational management and operational aspects of food service including menu-planning and evaluation; procurement, receiving, storage of food and supplies; human resource needs, quantity food production with regard to recipe standardisation, nutrient and quality preservation, portion and quality control, costs, sanitation and safety; equipment requirements and specifications, layout and design; quality assurance and continuous improvement in Foodservice.

Assessment:

Final Examination 100%

HUEC 501 (AH51P)

**FOODSERVICE SYSTEMS MANAGEMENT
PRACTICUM**

Co-requisite: HUEC 500 (AH51A)

Syllabus:

Supervised practice in all aspects of foodservice operation and subsystem at institutions and at the community level; coordination of foodservice subsystems, including menu planning and evaluation, policies and procedures, organisation of available resources and quality assurance; design and layout of physical facilities; utilisation of problem-solving and decision making skills under the supervision of a qualified Dietitian.

Application of knowledge and skills, integrating clinical nutrition into the management of foodservice, nutrition goals and nutrition education. Management of human, material, operating and facility resources including procurement, pre-processing, production, food distribution and service; maintenance of equipment and supplied; sanitation and safety.

Assessment:

Assignments 100%

HUEC 502 (AH52B)

ADVANCED CLINICAL NUTRITION

Prerequisite: HUEC 3005 (AH34A), HUEC 3006 (AH34B)
or equivalent

Syllabus:

A comprehensive review of the principles of nutritional care process as it relates to specified diseases and needs; the role of drugs in nutritional care, disease of the upper and lower gastrointestinal tract, endocrine and metabolic disorders, energy balance, hepatic and biliary system, disorders of the skin and skeletal system; physiological stress and hyper metabolic conditions; neoplastic diseases, AIDS; cardiovascular, nervous and respiratory systems; nutritional support and counselling techniques.

Assessment:

Final Examination 100%

HUEC 503 (AH52P)

CLINICAL NUTRITION PRACTICUM

Co-requisite: HUEC 502 (AH52B)

Syllabus:

Application of knowledge and skills in the collection, assessment, planning, implementation and evaluation of nutritional care of clients with specified diseases and needs; principles of nutritional care in a clinical setting; nutrient modifications in respect of diagnosis, treatment, prevention of complications in various diseases and disorders. Candidates will be assigned to various primary clinical facilities for clinical experience, participating in Paediatrics, Endocrinology, Cancer/Aids/Gerontology, Nephrology, Surgical/Trauma, and Psychiatry/Substance Abuse rotations under the supervision of a qualified Dietitian.

Assessment:

Clinical Appraisal/Case Reviews 40%

Educational Projects 30%

Clinical Update/Research 30%

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HUEC 504 (AH53C)

ADVANCED COMMUNITY NUTRITION

Prerequisite: HUEC 3001 (AH32 A) or equivalent

Syllabus:

Providing nutrition services in primary care; promoting and protecting the health of women, infants and children; promoting the health of adults, older adults; safeguarding the food supply; maintaining nutrition and food service standards in group care; planning and evaluating community nutrition services.

Computer-aided Food and Nutrition applications; hands-on learning experience with computer software in food and nutrition surveillance, health analysis, diet/exercise analysis, growth and development in childhood and pregnancy, menu-planning, and food and nutrition planning. Practical experience in preparing nutrition information for delivery through the various media (radio, print, graphics). Project development: the process of developing a project (proposal) is outlined with clearly defined objectives, implementation strategy, costing, time analysis, and evaluation. Individual practice is gained in developing a nutrition-related project, using one of the models presented, for a seminar presentation at the end of the programme.

Assessment:

Final Examination 100%

HUEC 505 (AH53P)

COMMUNITY NUTRITION PRACTICUM

Co-requisite: HUEC 504 (AH53C)

Syllabus:

This course will focus on the following areas as applied to community nutrition and nutrition services available within the community: community organisation and need; nutritional components of the health care system; poverty and nutritional problems of economically disadvantaged groups; health promotion-nutrition guidelines; national food and nutrition programmes and policies; agencies (local, regional, international) dealing with nutrition related issues; delivery of quality nutrition services; and legislative and regulatory processes.

Clinical practice in (Ministry of Health) one or more health regions in Trinidad and Tobago is coordinated with the theory presented in HUEC 504. A dietitian/public health nutritionist will coordinate the rotation.

Assessment:

Assignments 100%

MATH 2120 (M 21A)

**ANALYSIS & MATHEMATICAL METHODS I
(4 credits)**

Prerequisites: MATH 1140 and MATH 1150 (M 12A and M 12B)

Syllabus:

Limits of sequences of real numbers. Convergence of series of real terms. Tests for convergence of positive series. Comparison, quotient, ratio, nth root, integral tests. Absolute convergence. The alternating series test. Power series: Functions of two (or more) real variables; limits, continuity, partial derivatives, differentiability, stationary points, Lagrange multipliers, Riemann double integral, change of variables and the Jacobian, polar, spherical and cylindrical coordinates, vector calculus, line, surface and volume integrals. Stokes and Gauss Divergence theorems.

Examination:

One 2-hour written paper 70%

Coursework 30%

MATH 3260 (M 33B)

FLUID DYNAMICS II

(4 credits)

Prerequisite: MATH 3250 (M 33A) or Permission of the Head of Department

Syllabus:

Further Two-dimensional Flows; Some Three-dimensional Flows; Viscous Flows

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MATH 0100 (M 08B)

PRE-CALCULUS

(No credits)

Prerequisite: CXC Mathematics or equivalent

Co-requisite: MATH 0110 (M08C)

Syllabus:

The following topics will be treated with the minimum of rigour, but with emphasis on the understanding of the concepts involved.

Algebra: Elementary logic, number sets, real numbers, functions, inequalities, complex numbers, surds, logarithms, linear and quadratic equations, finite series, binomial theorem, mathematical induction.

Trigonometry: Trigonometric functions and their inverses, addition and multiplication formulae, identities, trigonometric equations, solutions of triangles.

Examination:

One 3-hour paper	85%
Course test	15%

MATH 0110 (M 08C)

CALCULUS AND ANALYTICAL GEOMETRY

(No credits)

Prerequisite: CXC Mathematics or equivalent

Co-requisite: MATH 0100 (M08B)

Syllabus:

The following topics will be treated with the minimum of rigour, but with emphasis on the understanding of the concepts involved. Calculus:

Functions, limits, continuity, differentiability, higher derivatives and application, anti-derivatives, Simpson's rule and the integral. Elementary methods of integration and solutions of simple differential equations. Analytical Geometry: Equations and representations of elementary plane curves. Applications of calculus to determine equations of tangents, normals and in the computation of areas and volumes.

Examination:

One 3-hour paper	85%
Course Test	15%

MATH 1140 (M 12A)

BASIC INTRODUCTORY MATHEMATICS

(6 credits)

Prerequisites: A-level Mathematics, MATH 0100 and MATH 0110, (M 08B & M 08C) or equivalent

Syllabus:

Basic concepts in Logic, logical arguments and proofs.

Sets and set operations, relations, functions and binary operations. The Natural Numbers and Induction, The Real Numbers, Solutions of linear inequalities. Complex Numbers, De Moivre's Theorem, roots of unity and the Argand diagram; Vectors in Geometry, vector equations of lines and planes, and the cross product. Solutions of systems of linear equations using Gaussian Elimination. Matrices and matrix algebra. Determinants of square matrices and their evaluation, using elementary row transformations.

Examination:

One 3-hour written paper	75%
Coursework	25%

MATH 1150 (M 12B)

FUNCTIONS OF REAL VARIABLES

(6 credits)

Prerequisites: A-level Mathematics, MATH 0100 and MATH 0110, (M 08B & M 08C) or equivalent

Syllabus:

Functions and Inverse Functions. Limits, continuity and differentiability. Indeterminate forms. Maxima and Minima, Rolle, Mean-Value and Taylor's Theorems. Polar coordinates. Parametric representation and sketching of curves. Arc Length. The definite integral, primitives and methods of integration. Ordinary differential equations - first and second order. Methods of undetermined coefficients (repeated roots included) and reduction of order. Introduction to partial derivatives.

Examination:

One 3-hour written paper	75%
Coursework	25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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MATH 1160 (M 15A)
INTRODUCTORY MECHANICS I
(6 credits)

Prerequisite: A-Level Applied Mathematics

Syllabus:

Functions of two variables, partial differentiation, vector analysis.

Introduction to Statics: Coplanar forces: forces acting at a point, moments, parallel forces, couples.

Centre of Gravity.

Introduction to Newtonian Mechanics: Kinematics, dynamics of particle. Work, energy, momentum, conservation laws, straight-line motion in a resisting medium, projectiles.

Simple Harmonic Motion.

Examination:

One 3-hour written paper 75%

Coursework 25%

MATH 1170 (M 15B)
INTRODUCTORY MECHANICS II
(6 credits)

Prerequisite: A-Level Applied Mathematics

Syllabus:

Central forces, conservation of energy. Elementary

Hydrostatics: Definitions, equality of pressure, transmission of pressure, density. Conditions of Equilibrium, surface of equal pressure, heterogeneous liquid. Resultant thrust, centre of pressure.

Introduction to Hydrodynamics: Kinematics equations of motion, continuity equations, surface condition Euler's equation and applications. Mathematical modelling:

Dynamics, linear and non-linear growth and decay.

Examination:

One 3-hour written paper 75%

Coursework 25%

MATH 2100 (M 20A)
ABSTRACT ALGEBRA
(4 credits)

Prerequisite: MATH 1140 (M 12A)

Syllabus:

Fundamental concepts in Set Theory, and philosophy of sets. Relations and Functions: Algebra of permutations, Elementary Theory of Groups and Rings, group homomorphisms. Development of the number systems. Properties of the Natural Numbers, the Integers, the Rationals, the Reals and the Complex numbers. Infinite sets and their cardinalities. Transfinite arithmetic.

Examination:

One 3-hour written paper 75%

Coursework 25%

MATH 2110 (M 20B)
LINEAR ALGEBRA
(4 credits)

Prerequisite: MATH 1140 (M 12A)

Syllabus:

Abstract vector spaces: Linear dependence and basis and Linear transformations. Matrices, row equivalence and rank. Solutions of systems of linear equations. Determinants, Characteristic roots and vectors. Similarity. Diagonalization. Quadratic forms and their reduction.

Examination:

One 3-hour written paper 75%

Coursework 25%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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MATH 2140 (M 25A)
INTRODUCTION TO PROBABILITY
(4 credits)

Prerequisite:

MATH 1140 and MATH 1150 (M 12A and M 12B) or

Permission of the Head of Department

Syllabus:

Basic Probability rules, including Bayes' rule, theorem on total probability; Conditional Probability; Random Variable; Mathematical Expectation; means, variance; Covariance of variables. Variance of sum of n random variables. Chebychev's theorem; Standard density functions and mass functions; Moment generating function. Random sample; some important statistics, sampling distributions. Central limit theorem.

Examination:

One 2-hour written paper **60%**

Coursework Examination **40%**

MATH 2150 (M 25B)
INTRODUCTION TO STATISTICS
(4 credits)

Prerequisite: MATH 2140 (M 25A) or Permission of the Head of Department

Syllabus:

Theory of Estimation: Ideas of point estimation; mean-squared error; interval estimation; method of maximum likelihood; Cramer-Rao Inequality.
Hypothesis Testing: Type I and Type II errors; tests concerning means, variances and proportions; Goodness of fit Tests; non-parametric tests.
Ideas of Regression Analysis including simple linear Regression in detail; Experimental Design and the Analysis of Variance (Completely Randomised Design, Block Designs, Latin Squares, Fractional Designs).

Examination:

One 2-hour paper **60%**

Coursework **40%**

MATH 2160 (M 21B)
ANALYSIS & MATHEMATICAL METHODS II
(4 credits)

Prerequisites: MATH 1140 and MATH 1150 (M 12A and M 12B)

Syllabus:

The Laplace transform and applications to differential and integral equations. Ordinary linear differential equations, Wronskian, linear independence. Existence and uniqueness (no proofs). Classification of points of second-order differential equations. Series solutions about ordinary and regular singular points. Fourier series. Solution of the two-dimensional heat, wave and Laplace equation using the separation of variables technique. Functions of a single complex variable, continuity, differentiability, analyticity and the Cauchy-Riemann equations; power series and contour integrals, Cauchy's theorem and integral formulae. Singularities and their classification. Residue theorem and its application to the evaluation of definite integrals.

Examination:

One 2-hour written paper **70%**

Coursework **30%**

MATH 2170 (M 24A)
INTRODUCTION TO COMBINATORICS
(4 credits)

Prerequisite: MATH 1140 (M 12A)

Syllabus:

Permutations and Combinations. The Inclusion - Exclusion Principle. Linear equations with unit coefficients; Recurrence relations; Generating functions; Geometry of the plane; Colouring problems; Combinatorial probability. Partitions of integer; Random walks; Designs.

Examination:

One 2-hour written paper **75%**

Coursework Examination **25%**

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MATH 2180 (M 24B)
INTRODUCTION TO OPTIMISATION
(4 credits)

Prerequisite: MATH 1140 (M 12A)

Syllabus:

Graphs and Digraphs; Ranking; Shortest Path;
Communication Networks; Convex sets; Linear programming;
Simplex Method; Theory of games.

Examination:

One 2-hour written paper 75%

Coursework Examination 25%

MATH 2190 (M 25C)
PROBABILITY AND STATISTICS I
(4 credits)

Prerequisite: MATH 1140 and MATH 1150 (M 12A and M 12B) or Permission of the Head of Department

Anti-requisite: MATH 2140 and MATH 2150 (M 25A and M 25B)

Syllabus:

Foundations of Probability, basic discrete and continuous distributions; expectation. Joint distribution of several discrete and continuous random variables. Covariance and correlation. The Central Limit Theorem. Basic ideas of point and Interval Estimation. Maximum likelihood Estimation Type I and Type II errors, significance level and power. Hypothesis of means, variances and proportions. Regression Analysis (mainly simple linear regression). Experimental Design. One and two-way ANOVA. Basic ideas of sampling from finite populations.

Comment:

MATH 2190 (M 25C) is a four (4) credit alternative to both MATH 2140 (M 25A) and MATH 2150 (M 25B) and is primarily aimed at non-Mathematics Majors.

Examination:

One 2-hour paper 60%

Coursework 40%

MATH 2200 (M 25D)
PROBABILITY AND STATISTICS II
(4 credits)

Prerequisite: MATH 1140, MATH 1150 and MATH 2190 (M 12A, M 12B and M 25C) or Permission of the Head of Department

Anti-requisite: MATH 2140 and MATH 2150 (M 25A and M 25B)

Syllabus:

Probability Theory: Conditional expectation for discrete random variables, Bayes Theorem, transformations of one random variable, evaluation of probabilities of events for continuous bivariate random variables transformations of two random variables, the squared distributions, moment generating functions; proof of the Central Limit Theorem, Markov and Chebychev inequalities, the weak law of large numbers. Statistical Inference: Unbiasedness, Fisher information and the Cramer-Rao inequality (without proof), sufficiency, the Fisher factorisation criterion, the Neyman-Pearson lemma. Statistical Methods: Factorial designs; non-parametric rank methods, the sign test, squared rank test, rank sum test, Kruskal-Wallis test, goodness of fit tests. Sampling Theory of Surveys: Simple random samples, stratified samples, ideas underlying other sampling schemes, non-sampling sources of error including non-response and poor sampling design.

Examination:

One 2-hour paper 60%

Coursework 40%

MATH 2210 (M 29A)
MATHEMATICS OF FINANCE
(4 credits)

Prerequisite: MATH 1140 and MATH 1150 (M12A and M12B)

Syllabus:

Introduction to actuarial science; measurement of interest; solutions of problems in interest, basic annuities; more general annuities, yield rates, amortisation schedules and sinking funds, bonds and other securities, practical applications.

Examination:

One 2-hour written paper 70%

Coursework 30%

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MATH 2220 (M 29B)
INTRODUCTION TO ACTUARIAL
MATHEMATICS
(4 credits)

Prerequisite: MATH 2120, MATH 2140 and MATH 2210
(M 21A, M 25A and M 29A)

Syllabus:
Survival distributions and life tables, utility theory, life insurance, life annuities, commutation functions, net premiums and premium reserves, introduction to multiple life functions.

Examination:

One 2-hour written paper 70%
Coursework 30%

MATH 3110 (M 31A)
MATHEMATICAL STATISTICS –
PROBABILITY THEORY
(4 credits)

Prerequisite: MATH 2120 (M 21A) or permission of the
Head of Department

Syllabus:
Basic Probability rules, including Bayes' rule, theorem on total probability; Conditional Probability; Random Variable; Mathematical Expectation; means, variance; Covariance of variables. Variance of sum of n random variables Chebychev's theorem; Standard density functions and mass functions; Moment generating function. Random sample; some important statistics, sampling distributions. Central limit theorem. Transformations of several random variables; order statistics; conditional expectation; the bivariate and multivariate normal distributions.

Examination:

One 2-hour written paper 60%
Coursework 40%

MATH 3120 (M 31B)
MATHEMATICAL STATISTICS –
STATISTICAL INFERENCE
(4 credits)

Prerequisite: MATH 3110 or MATH 2140 (M 31A or M 25A)

Syllabus:
Theory of Estimation: Ideas of point estimation; mean-squared error; interval estimation; method of maximum likelihood; Cramer-Rao Inequality. Hypothesis Testing: Type I and Type II errors; tests concerning means, variances and proportions; Goodness of fit Tests; non-parametric tests. Ideas of Regression Analysis including simple linear Regression in detail; Experimental Design and the Analysis of Variance (Completely Randomised Design, Block Designs, Latin Squares, Factorial Designs). Efficiency and the Fisher-Factorisation Criterion; the Rao-Blackwell theorem. Estimation from multinomial populations. Simple random, stratified, cluster and systematic sampling; non-sampling errors in surveys; likelihood ratio tests.

Examination:

One 2-hour written paper 60%
Coursework 40%

MATH 3240 (M 31S)
REAL ANALYSIS
(4 credits)

Prerequisite: MATH 2120 (M 21A)

Syllabus:
Properties of real numbers, real line topology (open sets, cluster points, compactness, connectedness). Introduction of topological spaces. Metric space. Continuity and homeomorphism. Point wise and uniform convergence of sequence and series of real valued functions.

Examination:

One 2-hour written paper 75%
Coursework 25%

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MATH 3250 (M 33A)

FLUID DYNAMICS I

(4 credits)

Prerequisite: MATH 2120 and MATH 2160 (M 21A and M 21B)

Syllabus:

Vector Analysis. Gradient, Divergence, Curl. Orthogonal Curvilinear Co-ordinates; Cartesian, Cylindrical and Spherical. Line, Surface and Volume Integrals. Introduction to Tensors. Kinematics and Equations of motion for Inviscid fluids. Simple Inviscid Flows.

Examination:

One 2-hour written paper 60%

Coursework 40%

MATH 3280 (M 33D)

INTRODUCTION TO MATHEMATICAL

MODELLING I

(4 credits)

Prerequisite: MATH 2120 and MATH 2160 (M 21A or M 21B)

Syllabus:

Idea of modelling real life and situations using Mathematics. Theory of ordinary differential equations (eigenvalues and eigenvectors) and the linear stability. Application to Medicine (e.g. testing of diabetics). Predator-Prey models (struggle for survival between two species). Epidemiology (e.g. model of the spread of gonorrhoea). A theory of war.

Examination:

One 2-hour written paper 75%

Coursework 25%

MATH 3290 (M 34A)

COMBINATORICS

(4 credits)

Prerequisite: MATH 2100 or MATH 2110 (M 20A or M 20B)

Syllabus:

Permutations and Combinations; Generating functions; Recurrence Relations; The Principle of Inclusion and Exclusion; Matching polynomials and Rook polynomials; Polya's theory of counting.

Examination:

One 2-hour written paper 75%

Coursework 25%

MATH 3400 (M 34B)

GRAPH THEORY

(4 credits)

Prerequisite: MATH 2100 (M 20A)

Syllabus:

Graphs: Trees, Spanning trees. Algorithms for spanning trees, and for tree-coding. Planarity, Colouring. Network Algorithms: Matchings, Graph polynomials. Applications in Operations Research.

Examination:

One 2-hour written paper 85%

Coursework 15%

MATH 3410 (M 34C)

COMBINATORICS AND COMPUTING

(4 credits)

Prerequisite: COMP 1100, COMP 1200, MATH 2170 and MATH 2180 (CS11E, CS11F, M 24A and M 24B)

Syllabus:

Analysis of Algorithms, Theoretical methods for analysing algorithms, Implementation of algorithms for generating permutations, combinations, compositions, sub-compositions etc. Computer representations of graphs; their advantages and disadvantages. Developing Algorithms for finding standard sub graphs of graphs, for example spanning trees, optimal spanning trees, Hamiltonian cycles. Implementation of algorithms for finding various kinds of F-polynomials. Coding of trees.

Examination:

One 2-hour written paper 75%

A project consisting of a computer implementation together with a project report 25%

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MATH 3420 (M 34D)
SPECIAL TOPICS IN GRAPH THEORY
(4 credits)

Prerequisite: MATH 2170, MATH 2180 and MATH 3400 (M 24A, M 24B and M 34B)

Syllabus:

The syllabus and content at any one time will depend on the research interests of the lecturer. Relevant research material will be made available.

Examination:

One 2-hour written paper	75%
A project accounting for	25%
(a) project report	15%
(b) 1-hour seminar	10%

MATH 3430 (M 34E)
ADVANCED ALGEBRA I - THEORY
(4 credits)

Prerequisite: MATH 2100 and MATH 2110 (M 20A and M 20B)

Syllabus:

Group Theory: Fundamentals, Cyclic groups, Cosets, Homomorphism Theorems; The Sylow Theorems, Theory of p-groups, Direct products of groups, Solvable groups. Ring Theory: Ideals; Quotient rings, Polynomial Rings, Euclidean Domains. Unique factorisation domains; Irreducible criteria.

Field Theory: Characteristics of Fields, Fields of Quotients, Sub-fields and Field Extension, Splitting Fields, Elements of Galois Theory.

Examination:

One 2-hour written paper	85%
Coursework	15%

MATH 3440 (M 34F)
ADVANCED ALGEBRA II - APPLICATIONS
(4 credits)

Prerequisite: MATH 3430 (M 34E)

Syllabus:

Straight-edge and Compass constructions; Coding theory; Polynomial and matrix representation; Applied Linear Algebra; Linear transformation; Functions of matrices; The Jordan Canonical form of a matrix; Solution of systems of differential equations; Quadric surfaces.

Examination:

One 2-hour written paper	85%
Coursework	15%

MATH 3450 (M 35A)
STATISTICAL THEORY I
(4 credits)

Prerequisite: MATH 2140 (M 25A)

Syllabus:

Joint and Conditional Distributions; Distribution of Function of Random variables; Moment Generating Function Techniques; Order statistics; Poisson Process; Finite Markov Chains; Introduction to Queuing Theory.

Examination:

One 2-hour written paper	75%
Coursework	25%

MATH 3460 (M 35B)
STATISTICAL THEORY
(4 credits)

Prerequisite: MATH 2140 and MATH 2150 (M 25A and M 25B)

Syllabus:

Methods of finding estimators and their properties Bayesian Inference; Regression Analysis; Time Series Analysis; Testing of Hypotheses; Design of Experiments; Sampling Theory.

Examination:

One 2-hour written paper	60%
Coursework	40%

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MATH 3470 (M 35E)

SAMPLING THEORY

(4 credits)

Prerequisite: MATH 2150 (M 25B) or a Good Grade i.e. B+ in ECON 2006 (EC23J)

Syllabus:

Basic ideas concerning the design and uses of sample surveys.

Sampling techniques: Simple random sampling (with derivations of basic results), Stratified sampling, Cluster / *REDUCE SPACE */sampling (one and two stage), Systematic sampling, Non-response and missing data in sample surveys. Designing forms and collecting data. Interpretation of data and survey report writing.

Topics in the sampling of non-human populations.

Examination:

One 2-hour written paper 60%

Coursework (in-course examinations and projects) 40%

MATH 3500 (M 36C)

COMPLEX ANALYSIS

(4 credits)

Prerequisite: MATH 2120 and MATH 2160 (M 21A and M 21B)

Syllabus:

Analytic functions, Elementary functions, Advanced complex integration (for many valued functions). Conformal mapping (Möbius transformation and their properties). The Schwarz Christoffel transformation. Power series (convergence, absolute convergence and uniform convergence), sequence and series of functions. Zeros and poles of meromorphic functions. Analytic continuation.

Examination:

One 2-hour written paper 75%

Coursework 25%

MGMT 2012 (MS21B)

MANAGEMENT INFORMATION SYSTEMS I

(3 credits)

Prerequisite: None

Syllabus:

This course provides an overview of Management Information Systems. It describes the components of Management Information Systems and the relationship of MIS to the larger area of Organisation and Management. Information Systems Technology is covered.

Assessment:

Coursework 25%

Final Examination 75%

MGMT 2013 (MS21E)

INTRODUCTION TO E-COMMERCE

(3 credits)

Syllabus:

This course aims to prepare students with the requisite fundamentals to enable them to provide the business perspective/inputs to the e-commerce adoption process. Emphasis will be on the underlying commercial principles of e-commerce rather than on the technological processes. Topics to be covered include: internet demographics; internet business models; customer support strategies; security issues in e-commerce; legal issues in e-commerce; logistical challenges for Caribbean e-commerce.

Assessment:

Coursework

Final Examination

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MGMT 2014 (MS22A)
ORGANISATIONAL BEHAVIOUR
(3 credits)

Prerequisite:

Syllabus:

This course uses the systems approach to organisations to highlight how interrelated variables such as people, technology, task, structure and external environments impact on organisational effectiveness. Emphasis is on the nature of behavioural issues and how and why they impact on the functioning of organisations.

Assessment:

Coursework 25%

Final Examination 75%

MGMT 2021 (MS27A)
BUSINESS LAW
(3 credits)

Prerequisite: None

Syllabus:

The main focus of this course is the general principles of the law of contract, the law of Agency as well as other related areas of interest like the Sale of Goods Act and the Hire Purchase Act 1938 and 1954. Background material covers the role and function of the law in society, the sources of the law, the legal system etc.

Assessment:

Coursework

Final Examination

MGMT 3042 (MS31B)
MANAGEMENT INFORMATION SYSTEMS II
(ANALYSIS AND DESIGN)
(3 credits)

Prerequisite: MGMT 2013 (MS21B)

Syllabus:

This course addresses the need for managers to understand the requirements for Information Systems, to participate in the design of systems and to manage the procurement of systems.

Assessment:

Coursework

Final Examination

MGMT 3047 (MS32A)
HUMAN RESOURCE MANAGEMENT
(3 credits)

Prerequisite: MGMT 2014 (MS22A)

Syllabus:

This course provides participants with a broad overview of issues pertaining to human resource management with special reference to the Caribbean environment.

Assessment:

Coursework

Final Examination

MKTG 2080 (MS20A)
PRINCIPLES OF MARKETING
(3 credits)

Prerequisites: ECON 1001, ACCT 1010, ACCT 1011 (EC10D, EC16A, MS15E, and MS15F)

Syllabus:

This course is intended to provide students with the conceptual framework and analytical skills necessary for the analysis of markets and marketing activities of firms in a dynamic environment.

Assessment:

Coursework - 1 Test 25%

Final Examination 75%

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PHYS 0070 (P07A)
PRELIMINARY PHYSICS I
(0 credits)

Prerequisite: O-level Physics. In exceptional circumstances, depending on academic merit, this prerequisite may be waived.

Syllabus:

Mechanics, Heat and Waves & Sound.
SI system and standard units, dimensional analysis, vectors (graphical analytical); Equilibrium, Newton's first law, third law, friction, motion in a straight line, average and instances velocity and acceleration, accelerated motion, free fall. Relative velocity; motion in a plane, projectiles, circular motion, centripetal force, Newton's second law and applications; Gravitation, mass and weight, satellite motion; Work and kinetic energy, gravitational and elastic potential energy, dissipative and conservative forces, power, equilibrium: Stress, strain, elastic moduli, force constant, Hooke's law, simple harmonic motion (basic concepts), SHM and circular motion, mass-spring system, simple pendulum, pressure in a fluid, pressure gauges. Archimedes principle, surface tension, pressure difference across surface film, contact angle and capillaries. Bernoulli's equation (applications), viscosity, Stoke's law, Reynold's number. The temperature concept, thermometers, scales, thermal expansion and stress; Heat capacity, phase changes, conduction, convection, radiation, Stefan-Boltzman law, ideal radiator, solar energy, ideal gas, equation of state, phase diagrams, triple and critical points, vapour pressure, effect of dissolved substances on freezing and boiling point, first law of thermodynamics, energy and work, work and heat, adiabatic, isochoric, isothermal and isobaric processes, internal energy, molecular theory of motion, kinetic theory of ideal gas.
Mechanical waves, periodic waves, wave speed, traveling waves, mathematical representation, waves at boundaries, standing waves, interference of sound waves, beats, sound intensity, the decibel, the ear and hearing, quality and pitch, Doppler effect, ultrasonics and applications.

Assessment:

32 hours of practical coursework
Theory coursework **20%**
Practical coursework **20%**
One 3-hour theory paper **60%**

PHYS 0071 (P07B)
PRELIMINARY PHYSICS II
(0 credits)

Prerequisite: O-level Physics. In exceptional circumstances, depending on academic merit, this prerequisite may be waived.

Syllabus:

Electricity and Magnetism, Optics and Modern Physics
Charge, Coulomb's law, insulators and conductors, electric field, lines of force, electric potential, potential differences, electron volt (Millikin's experiment, CRC).
Capacitance, series and parallel combination, energy in a charged capacitor, dielectrics, current, resistivity, resistance, EMF, work and power, resistors in series and parallel, Kirchoff's laws, Wheatstone bridge and potentiometer. The magnetic field, lines of force, magnetic flux, motion in a magnetic field. Thomson's measurement of e/m , isotopes and spectrography; force on conductor, torque on a current loop, the d.c. motor, pivoted-coil galvanometer, magnetic field of a long straight wire, force between parallel conductors, the ampere, induced emf, Faraday's law, Lenz's law, eddy currents.
The nature of light, speed of light (experimental), waves and rays, refraction and reflection. Snell's law, total internal reflection, dispersion, single surface images, reflection from plane and spherical surfaces, focal point and length, refraction at plane and spherical surfaces, graphical and analytical methods, images and objects, thin lens, diverging lens, lensmaker equation, aberrations, the eye, defects of vision, magnifier, camera projector, compound microscope, telescope, etc.
Atomic nucleus, nuclear radiation, isotopes and isobars, binding energy and stability; alpha, beta and gamma rays, decay law, half-life, decay constant, activity, radioactivity series, nuclear reactions, nuclear fission, nuclear fusion, radioactive shielding, radiation and the life sciences.

Assessment:

32 hours of practical coursework
Theory coursework **20%**
Practical coursework **20%**
One 3-hour theory paper **60%**

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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PHYS 1110 (P11A)
INTRODUCTORY PHYSICS
(6 credits)

Prerequisite: A-Level Physics or equivalent OR O-Level Physics or equivalent together with A-Level Mathematics or equivalent.

Syllabus:

Mathematical Methods in Physics: Vectors; Complex numbers; Matrices and Determinants. Applications to Physics. Mechanics: Units and dimensions; Particle dynamics, Work and Energy; Conservation of mass, energy and momentum; Rotational kinematics; Equilibrium of rigid bodies; Oscillations; Gravitation; Properties of fluids; Fluid statics and dynamics. Optics: Reflection and refraction; Fermat's principle; Huygen's principle; Interference and Diffraction. Acoustics: waves in Elastic media; Acoustics and wave motion; Superposition and Interference of Waves.

Assessment:

A course of experiments designed to illustrate various principles of Physics. Candidates are required to present their practical notebooks for inspection by the examiner

Theory Coursework	20%
Practical Coursework	20%
One 3-hour theory paper	60%

PHYS 1111 (P11B)
INTRODUCTORY PHYSICS II
(6 credits)

Syllabus:

Electricity and Magnetism: Electric Charge; Electric Field; Gauss' Law; Electric Potential; Capacitors and dielectrics; Currents in materials; Direct-current circuits; Effects, production and properties of Magnetic Fields; Faraday's Law; Inductance; Introduction to B, H and M vectors. AC Theory and Electronics: AC currents/voltages; AC in series and parallel LCR circuits; Vector, phasor and complex representation; Q factor; power; Transformers; Digital systems; Logic gates; Truth tables; Combinatorial circuits; Basic Op Amp. Modern Physics: Black body radiation, Thermal radiation; Stefan's, Wein's and Rayleigh-Jean's Laws; Quanta; Planck's Law; Photoelectric effect; Davisson-Germer and Thomson's experiments; The Atom; Atomic spectra; Energy levels and the Hydrogen Atom; Bohr model; X-rays; Moseley's Law. Thermodynamics: Thermal equilibrium; Triple point; Work; Heat; First Law of Thermodynamics; Applications of First Law; Heat capacities; Equipartition of energy; Ideal gas; Kinetic Theory; Heat conduction; application to spherical and cylindrical symmetry.

Assessment:

A course of experiments designed to illustrate various principles of Physics. Candidates are required to present their practical notebooks for inspection by the examiner.

Theory Coursework	20%
Practical Coursework	20%
One 3-hour theory paper	60%

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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PHYS 2280 (P28A)
MATHEMATICAL METHODS IN PHYSICS
(4 credits)

Prerequisite: PHYS1110 (P11A), or PHYS1111 (P11B) and A Level Mathematics or equivalent.

Syllabus:

Distribution functions, Sampling theory. Applications in Physics. Cartesian and Curvilinear Coordinate Systems. Vector analysis; Complex variable theory; Fourier series analysis; Differential equations, up to second order. Applications in Physics.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 2281 (P28B)
MODERN PHYSICS
(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-Level Mathematics or equivalent.

Co-requisite: PHYS2280 (P28A)

Syllabus:

Introduction to Special Relativity: The foundations of special relativity. Relativistic kinematics and relativistic particle Mechanics. Introduction to Quantum Mechanics: Evidence of the inadequacy of classical mechanics applied to atomic systems. Basic postulates of quantum mechanics. Schrodinger's theory and applications to simple one-dimensional systems. Atomic Physics: Spectrum of the hydrogen atom based on the Bohr model. Quantization and selection Rules. Behaviour of atoms in time-independent electric and magnetic fields. The Atomic Nucleus and radioactivity: Nuclear mass and binding energy. The liquid drop model of the nucleus. Radioactive Decay. The interaction of charged particles and radiation with matter.

Assessment:

35 hours practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 2282 (P28C)
CIRCUIT THEORY AND ELECTRONICS
(4 credits)

Prerequisite: PHYS1110 (P11A) and PHYS1111 (P11B) OR (MATH 1140 (M12A) and MATH 1150 (M12B) & COMP1100 (CS11E) and COMP1200 (CS11F) or MATH1160 (M15A) and MATH1170 (M15B)

Syllabus:

Circuit Theory: DC and AC analysis. Electronics: Intrinsic and extrinsic semiconductors. Junction diodes: theory and applications. BJT and FET transistors, Biasing, Load line analysis, hybrid equivalent model, small signal analysis, frequency response. Feedback principles, Power amplifiers and magnetic coupling. Power supplies.

Assessment:

35 hours practical coursework.

Theory Coursework 20%

Practical Coursework 20%

One 2-hour paper 60%

PHYS 2283 (P28D)
OSCILLATION, WAVES AND OPTICS
(4 credits)

Prerequisite: P1110 (P11A), P1111 (P11B0) and A-Level Mathematics or equivalent

Co-requisite: PHYS2280 (P28A)

Syllabus:

Oscillation and Waves: Simple, damped and forced harmonic motion. Equations of motion and their solutions. Different aspects and applications of these motions. Equation of wave motion in one dimension. Longitudinal and transverse waves and the consideration of different examples of the propagation and interaction of these waves. Interference Optics: Divided wave front and divided amplitude Interference with examples and necessary background theory. Geometrical Optics: Imaging by optical systems; Thin lenses; Cardinal points; Matrix method for thick lens Systems; Aberrations

Assessment:

35 hours of practical coursework.

Theory Coursework 20%

Practical Coursework 20%

One 2-hour paper 60%

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PHYS 2290 (P29A)

**INTRODUCTION TO MEDICAL PHYSICS AND
BIOENGINEERING**

(4 credits)

Prerequisite: PHYS1110 (P11A), P1111 (P11B) and A-level
Mathematics or equivalent.

Co-requisite: PHYS2280 (P28A)

Syllabus:

The structure, function, properties and physics of bone, muscles, cardiovascular system and the nervous system. Feedback and control systems in the body and homeostasis. Biomedical potentials, electroculogram, electrocardiogram, electromyogram, electroencephalogram and magnetocardiogram. The visual system and the auditory system. Medical radiation sources and applications in medicine. Review of radiation interaction with matter. Radiation safety.

Assessment:

35 hours of practical coursework.

Theory Coursework 20%

Practical Coursework 20%

One 2-hour paper 60%

PHYS2291 (P29B)

DIGITAL ELECTRONICS

(4 credits)

Prerequisite: P1110 (P11A) and P1111 (P11B) OR
MATH1140 (M12A) and MATH1150 (M12B) and
COMP1100 (CS11E) and COMP1200 (CS11F) OR
MATH1160 (M15A) and MATH1170 (M15B)

Syllabus:

Components and Devices: Basic theory and application of electronic and opto-electronic components such as zener diodes, SCR, LEDs, LDs, optical receivers, optical fibre. Digital electronics: Comparison of analogue and digital systems, Boolean Algebra, Basic logic functions NOT, AND, OR. Duality. Computational rules of logic algebra. Generalised logical system, inputs and outputs, variables, NAND, NOR, EXCLUSIVE OR, Combinational logical systems. Simplification of logical equations. KV tables up to four variables. Number system, codes, coding. Introduction to sequential systems.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical Coursework 20%

One 2-hour paper 60%

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PHYS 2292 (P29C)
METEOROLOGY, CLIMATOLOGY AND POLLUTION
(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-Level Mathematics or equivalent.

Co-requisite: PHYS2280 (P28A)

Syllabus:

Meteorology: Structure and composition of the atmosphere. Meteorological elements and measurements. Physical processes in the atmosphere. Atmospheric motion and circulation - Geostrophic wind, Gradient wind; Thermal wind, Frictional effects, vorticity. The general circulation, Frontal systems, Circulation and disturbances of the tropics. Climatology and Pollution: Climate controls, Classification, regional climates, Climates of the Caribbean. Land use, water resources, pollution. Aerosols. El Niño-Southern Oscillation. ITCZ.

Assessment:

35 hours of practical coursework

Theory coursework	20%
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Practical coursework	20%
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One 2-hour paper	60%
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PHYS 2293 (P29D)
FUNDAMENTAL OF GEOPHYSICS
(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-Level Mathematics or equivalent

Co-requisite: PHYS2280 (P28A)

Syllabus:

Physics of the Earth: The geoid; Earth's internal structure and origin; the Earth-Moon system, volcanoes. Earth's magnetic field and its origin; paleomagnetism. Terrestrial heat flow. Introduction to Geophysical Prospecting: A general survey of prospecting techniques with a brief account of relevant physical properties of rocks. Seismic, Gravity, Magnetic and Resistivity methods. Seismic digital data acquisition and processing will be introduced. Geophysical Interpretation.

Assessment:

35 hours of practical coursework

Theory Coursework	20%
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Practical Coursework	20%
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One 2-hour paper	60%
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PHYS 2294 (P29E)
MATERIALS SCIENCE
(4 credits)

Prerequisites: PHYS1110 (P11A), PHYS1111 (P11B) and A-Level Mathematics or equivalent.

Co-requisite: PHYS2280 (P28A)

Syllabus:

Introduction: Scope of materials science. Classification of Materials. Structure of Solids: Bonding. Crystal Structure. Defects. Properties of Solids: Mechanical, electrical, thermal, optical properties. Metals and Alloys: Structure, Phase Diagrams. Polymers and Composites: Manufacture. Structure. Properties. Ceramics: Crystalline Ceramics. Clay Products. Glasses.

Assessment:

35 hours of practical coursework

Theory Coursework	20%
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Practical Coursework	20%
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One 2-hour paper	60%
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PHYS 2295 (P29F)
LASERS AND SOLAR ENERGY
(4 credits)

Prerequisites: PHYS1110 (P11A) and PHYS1111 (P11B)

Co-requisite: PHYS2280 (P28A)

Syllabus:

LASERS: Stimulated emission. Einstein's coefficients. Conditions for lasing. Optical and electrical pumping. Solid, liquid and gas lasers. Rate equations. Mode structure, Q-switching Applications of lasers. SOLAR ENERGY: General overview, historical perspective. Solar energy utilisation, flat plate collectors, solar cells, concentrating collectors, OTEC. Construction and operating principles of a solar collector. Optical characteristics, heat transfer characteristics, efficiency. Mathematical analysis of a solar collector as applied to a selected unit.

Assessment:

35 hours of practical coursework

Theory coursework	20%
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Practical coursework	20%
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One 2-hour paper	60%
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PHYS 3381 (P38B)

MODERN PHYSICS

(4 credits)

Prerequisite: PHYS2281 (P28B) or repeating and PHYS2280 (P28A)

Syllabus:

Quantum Mechanics: Brief review of the postulates of quantum mechanics and development of underlying Formalism. Fundamental principles and theorems. Properties of wave functions and Operators. Schrodinger's equation applied to simple systems (not covered in PHYS2281 (P28B)). Schrodinger's equation for the hydrogen atom and its solution. Elements of approximation techniques. Atomic Physics: Example of eigenfunctions and corresponding probability densities of the hydrogen atom. Transition rates and selection rules. Electron spin hypothesis. Multielectron atoms. Behaviour of atoms in time-independent and time-dependent electric and magnetic fields. Nuclear Physics: Nuclear forces. Shell and Collective models of the nucleus. Nuclear reactions-fission and fusion. Elementary particles-families, observed interactions and conservation laws.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 3382 (P38C)

ELECTRONICS & CONTROL THEORY

(4 credits)

Prerequisite: PHYS2282 (P28C) or repeating

Syllabus:

Multivibrators, Analogue System Building Blocks, Analogue Computers. Classical Control theory; System Modeling and Control, Measures of Performance, Stability, System Analysis in the Laplace Transform Domain, Methods of Improving System Performance.

Assessment:

35 hours of practical coursework.

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 3383 (P38D)

OPTICS AND ASTRONOMY

(4 credits)

Prerequisites: PHYS1110 (P11A), PHYS1111 (P11B), M080 or M08B and M08C or A-level Mathematics.

Co-requisite: PHYS2280 (P28A)

Syllabus:

Optics: Fraunhofer and Fresnel diffraction and polarisation. Descriptive and quantitative considerations, applications. Astronomy: Observational instruments; celestial sphere and co-ordinate systems; solar system; Stars and their evolution; Galaxies and cosmology.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 3384 (P38E)

THERMODYNAMICS AND SOLID STATE PHYSICS

(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-level Mathematics or equivalent

Co-requisite: HYS2280 (P28A)

Syllabus:

Thermodynamics: Heat; work; First and Second Laws of thermodynamics – applications; engines; refrigerators; entropy; Maxwell's relations; Liquefaction of gases; Joule-Thomson effect; thermodynamic potentials; magneto-thermal relations; thermodynamic applications. Solid State: Structure of solids; elementary crystallography and crystal diffraction; free electron theory of metals; energy band theory; semiconductors; superconductivity.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

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PHYS 3385 (P38F)
ELECTROMAGNETIC THEORY & APPLICATIONS
(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-level Mathematics or equivalent

Co-requisite: PHYS2280 (P28A)

Syllabus:

Electric fields In matter; polarization, the field of a polarized material; the electric displacement; linear and non-linear dielectrics. Magnetic fields In matter; magnetisation; the field of a magnetised material; the auxiliary field H. linear and non-linear media. Electrodynamics: Maxwell's equations; conservation laws (the continuity equation, Poynting's theorem, momentum); electromagnetic waves. Transmission lines: simple lossless system; Smith chart; transmission line matching. Wave guides: the parallel plane system; TE, TM and TEM modes; rectangular wave guides; resonators. Antenna Theory: Elementary theory of electric and magnetic dipole radiation. Practical radiating systems.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 3387 (P38P)
RESEARCH PROJECT
(4 credits)

Available only to Physics Majors who need a maximum of 40 credits to graduate

Syllabus:

A research project in some topic in Physics or a related area and may include experimental work in the laboratory and the field.

Examination:

A dissertation of up to 5000 words and an oral presentation.

Dissertation Report 40%

Performance 40%

Oral Presentation 20%

PHYS 3390 (P39A)
FURTHER MEDICAL PHYSICS AND BIOENGINEERING
(4 credits)

Prerequisite: PHYS1110 (P11A) and PHYS1111 (P11B) and A-level Mathematics or equivalent

Syllabus:

Biomechanics in orthopaedics and cardiac surgery. Biomaterials focussing on the properties of implantable materials and their preparation for implantation. Radiation diagnosis and therapy - focussing on detectors, scanners and imaging processing in the medical environment. Nuclear medicine - radioisotope tracer studies and system modelling. Kinetic and blood flow studies.

Assessment:

35 hours practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour theory paper 60%

PHYS 3391 (P39B)
FURTHER DIGITAL ELECTRONICS AND MICROPROCESSOR SYSTEMS
(4 credits)

Prerequisite: PHYS2291 (P29B) or repeating

Syllabus:

Registers, Adders Subtractors, Bistable and Monostable Circuits. Counters; Binary, BCD, UP/DOWN, Odd Number Counting, Frequency Counters. Sample and Hold Techniques, D/A, A/D. Microprocessor Architecture; Memory Oriented, Register Oriented. Memories; RAM, types, ROM, EPROM etc., Memory Organization. Addressing modes, Interrupts DMA, I/O Interfacing, Memory-Mapped I/O. Mapped I/O. Input Output Control Flowcharting. Modems. Operating Systems.

Assessment:

35 hours of practical Coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

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PHYS 3392 (P39C)
PHYSICAL OCEANOGRAPHY AND
GEOHYDROLOGY

(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-Level Mathematics

Co-requisite: PHYS2280 (P28A)

Syllabus:

Introduction to Physical Oceanography: Instruments and measurements. Remote sensing. Characteristics of sea water. Principles of fluid dynamics. Application to ocean circulation, surface and deep water currents, waves and wave generation, tides. Coastal oceanography. Uses, problems of the oceans. Introduction to Geohydrology: Water bearing formations - Geohydrology of the Commonwealth Caribbean with special reference to individual Campus Territories. Groundwater flow - Darcy's Law, equation of continuity. Laplace equation. Well hydraulics. Aquifer characteristics, storage and transmissibility coefficients. Interference in wells using image techniques. Barometer (Earthquake) and tidal variation, saline intrusions in coastal aquifers.

Assessment:

35 hours of practical coursework

Theory coursework	20%
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Practical coursework	20%
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One 2-hour paper	60%
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PHYS 3393 (P39D)

EARTH MATERIALS, EARTH PROCESSES
AND SEISMOLOGY

(4 credits)

Prerequisite: PHYS1110 (P11A), PHYS1111 (P11B) and A-Level Mathematics

Co-requisite: PHYS2280 (P28A)

Syllabus:

Earth Processes and Caribbean Stratigraphy: Properties of minerals and crystals; composition, occurrence, distribution, classification and field recognition of igneous, sedimentary and metamorphic rocks; tectonic and structural features of the earth; volcanic activity; formation of soils and sediments; stratigraphy and geologic time; plate tectonics. The Caribbean environment in relation to man, water supply, soils, petroleum, engineering geology, minerals. Introduction to Earth Materials: The origin, occurrence, world distribution and development of major earth resources - metalliferous and nonmetal ores, petroleum, coal building materials, chemical raw materials, bio mass resources. Earth Seismology: The nature of earthquakes; the propagation and detection of seismic waves; geographical distribution of earthquakes; surface effects of earthquakes, earthquake history of the Caribbean.

Assessment:

35 hours of practical coursework

Theory coursework	20%
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Practical coursework	20%
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One 2-hour paper	60%
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PHYS 3394 (P39E)
FURTHER MATERIALS SCIENCE
(4 credits)

Prerequisite: PHYS1110 (P11A), P1111 (P11B) and MATH0100(M08B) or MATH0110 (M08C) or A-level Mathematics

Co-requisite: PHYS2280 (P28A)

Syllabus:

Iron and Steel Making. Raw materials. Minimill process. Products. Microstructure and Properties of Iron and Steel. Transformations. Heat Treatment Testing. Destructive testing. Nondestructive testing. Microstructure of Polymers. Architecture. Crystallisation. Mechanical and other Properties of Polymers. Viscoelasticity. Dynamic response. Microstructure of Composites. Mechanical and other Properties of Composites.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 3395 (P39F)
THIN FILMS AND VACUUM PHYSICS
(4 credits)

Prerequisite: PHYS2294 (P29E)

Syllabus:

Thin Films: Methods of preparation of films. Growth and structure of films. Mechanical properties of films. Optical properties of films. Electrical properties of films. Thin film application.

Vacuum Physics: The behaviour of gases in vacuum. The components of a vacuum system. Vacuum pumps: rotary, diffusion, etc. Turbo molecular pump, Getter-ion pump.

Vacuum gauges: Pirani, Penning, McLeod's gauges. Vacuum coating system.

Assessment:

35 hours of practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PHYS 3396 (P39G)
CERAMICS
(4 credits)

Prerequisite: PHYS2294 (P29E) or repeating

Syllabus:

Typical properties and engineering applications; Crystal structures; Processing of Ceramics; Ceramic microstructures; Mechanical, thermal, electrical and magnetic properties; cements and concrete; Ceramic coating.

Assessment:

35 hours practical coursework

Theory coursework 20%

Practical coursework 20%

One 2-hour paper 60%

PSYC 1003 (PS14A)
INTRODUCTION TO PSYCHOLOGY
(3 credits)

Prerequisite: None

Syllabus:

This course deals with basis concepts in psychology. It also seeks to illustrate how these concepts and their related theories can be linked to social, educational and political issues.

Assessment:

Final Examination 100%

PSYC 2011 (PS24D)
SELECTED THEORIES
IN SOCIAL PSYCHOLOGY
(3 credits)

Prerequisite: PS14A OR PS11B

Syllabus:

A survey of selected theories in social psychology and the methods used to examine social psychological concepts. Emphasis is on the interactionist dynamics of social psychology examining socialisation, conformity, cognitive dissonance, attitude formation and change, prejudice and race relations, leadership and interpersonal relations.

Assessment:

Final Examination 100%

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APPENDICES

APPENDIX I (a)

Approved Science CSEC General Proficiency/GCE O-Level subjects:

Additional Mathematics	Environmental Science
Agricultural Science	Geography
Biology	Integrated Science
Chemistry	Information Technology
Computer Science	Physics

APPENDIX 1 (b)

Approved Science CAPE/GCE A-level Subjects:

Biology	Information Technology
Botany	Applied Mathematics
Chemistry	Further Mathematics
Computer Science	Pure Mathematics
Geography	Mathematics
Geology	Physics
Environmental Science	Zoology

APPENDIX II

Universities with which FSA has Exchange Programmes

These include:

York University
University of Georgia
University of Toronto
University of Wisconsin-Madison
University of Warwick
Virginia Tech University
Florida International
Grand Valley State University
Florida State
Pacific Lutheran University
University of Florida
University of Plymouth

APPENDIX III

Foundation Courses: (to be taken by FSA students)

FD11B	-	Academic writing for different disciplines (Option C)
FD11A	-	Caribbean Civilization
FD13A	-	Law, Governance, Economy and Society

Any other course approved for the purpose by the Board of Undergraduate Studies.

The prerequisite for entry into FD11B is **any one** of the following:

- CSEC English Language Grade I (General Proficiency)
- General Paper Grade A or B
- A Pass in the English Language Proficiency Test
- A Pass in English as a Foreign Language (Intermediate)

FD11A

CARIBBEAN CIVILISATION (SEMESTER I) (NOT for Humanities students)

Objectives:

1. To develop an awareness of the main process of cultural development in Caribbean societies, highlighting the factors, the problematics and the creative output that have fed the emergence of Caribbean identities.
2. To develop a perception of the Caribbean as wider than island nations or linguistic blocs.
3. To stimulate students' interest in, and commitment to Caribbean civilisation and to further their self-definition.

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Modules:

1. Origins
 - I Caribbean space/physical environment/ Amerindian peoples and Cultures: their legacy.
 - II European conquest, settlement and demographic changes.
2. Fighting for Freedom
 - I Slavery, marronage and rebellion.
 - II New in/out- migration, indenture, and their consequences: 19th and 20th centuries.
3. Quest for Identity
 - I Race and nationalism.
 - II Independence, dependence and regionalism.
 - III Creolisation and ethnic identity.
4. Ideas, Ideologies and Theologies
 - I Education/religion in the Caribbean.
 - II Caribbean Intellectual Traditions.
5. Caribbean Expressions
 - I Caribbean music - Calypso, Reggae.
 - II Caribbean festivals.
 - III Sports.
 - IV Caribbean voices - French, English, Spanish, Linguistic Identity.

Evaluation:

In-course test	40%
Final 2-hour examination	60%

FD11B

**ACADEMIC WRITING FOR DIFFERENT DISCIPLINES
(SEMESTER II)**

The aim of this course is to develop students writing skills in areas related to their academic disciplines. There will be twenty-four (24) contact hours. Classroom activity will be supplemented by printed materials.

OPTIONS

Option A: Writing about Literature

(Compulsory for Literatures in English Majors)

Critical Reading

Writing the Critical Analysis

Option B: Argument and Report Writing

Report Writing

Logical Argument

**Option C: Scientific and Technical Writing
(Compulsory for FSA Students)**

Technical Description

Expository Writing for Scientific and Technical Purposes

Evaluation:

Coursework	50%
Final Examination	50%

Students must pass both coursework and final examination in order to qualify for an overall pass in the course.

Attendance Regulation:

A student in any of the Foundation courses in English Language who misses two (2) out of any six (6) class hours will be warned, and after two (2) warnings any further absence without prior permission or an acceptable medical certificate will result in automatic exclusion from the examination.

FD13A

**LAW, GOVERNANCE, ECONOMY AND SOCIETY
(SEMESTER I and II)**

This course is delivered through the medium of print. The print package comprises a student manual, a study guide and a reader. In addition to the print material there are teleconferencing and/or tutorials.

The course introduces students to some of the major institutions in Caribbean society. It exposes the student to both the historical and contemporary aspects of Caribbean society, including Caribbean legal, political and economic systems. In addition, Caribbean culture and Caribbean social problems are discussed.

Assessment is based solely on a final examination at the end of the semester. It consists of twelve (12) essay-type questions, of which students are required to write on three (3). All questions carry equal marks. The examination is divided into four (4) sections corresponding to the four (4) subject areas in the course. Students are not allowed to do more than one (1) question in any one section.

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APPENDIX IV
LEVEL I PREREQUISITES FOR
THE APPLIED SCIENCE MAJORS

1. **Agricultural Science**

Agricultural Science Major

AGLS 1001 (AL13C), CHEM 1062 (C10A), AGSL 1000 (AS16B), AGRI 1016 (AG11B), AGRI 1013 (AG10B), AGRI 1000 (AG133).

2. **Agri-business**

Agri-business Major

AGBU 1005 (AM15A), AGEX 1000 (AX15C), AGRI 1003 (AG14C), COMP 1011 (CS10M), AGRI 1010 (AG18A), AGBU 1006 (AM15B).

3. **Human Ecology**

Family and Consumer Sciences Major

AGBU 1005 (AM15A), HUEC 1003 (AH12B), HUEC 1007 (AH14A), PSYC 1004 (PS11B), HUEC 1006 (AH14B), HUEC 1005 (AH12C).

Nutritional Sciences Major

HUEC 1003 (AH12B), AGRI 1012 (AG10A), CHEM 1062 (C10A), HUEC 1005 (AH12C), AGRI 1013 (AG10B) HUEC 1004 (AH13B).

Foods and Food Systems Service Management Major

AGRI 1012 (AG10A), CHEM 1062 (C10A), ACCT 1002 (MS15E), HUEC 1003 (AH12B), AGBU 1005 (AM15A), HUEC 1001 (AH10C), HUEC 1004 (AH13B).

4. **Environmental & Natural Resource Management Major**

BIOL 1065 (BL12A), AGBU 1005 (AM15A), AGRI 1012 (AG10A), AGSL 1000 (AS16B), BIOL 1462 (BL11G), AGBU 1002 (AM17B).

5. **Geography**

AGGE 1900 (AG19A) and AGGE 1901 (AG19B).

APPENDIX V
Levels II/III REQUIREMENTS FOR MAJORS

1. **Agricultural Science**

AGRI 2001(AG21C), AGCP 2001 (AC24B), AGLS 2002 (AL22B), AGSL 2000 (AS22B), AGLS 2005 (AL20B), AGRI 3012 (AG30A), AGRI 3000 (AG35B), AGSL 2001 (AS21D), AGLS 2001 (AL21C), AGCP 3008 (AC33A).

2. **Agri-Business**

i. AGBU 2002 (AM23B), AGBU 3001 (AM32A), AGEX 3004 (AX36B), AGBU 3000 (AM30C), AGBU 3007 (AM37A), AGBU 3002 (AM32D), AGBU 2003 (AM25A).

ii. Plus six (6) credits from: AGBU 3006 (AM36A), AGBU 3005 (AM35B), FINM 2060 (MS28D), AGBU 3012 (AM312), AGBU 3009 (AM32E), AGBU 3003 (AM33D), MKTG 2080 (MS20A).

3. **Human Ecology**

Family and Consumer Sciences Major

HUEC 2008 (AH24D), PSYC 2012 (PS 24E), HUEC 2004 (AH23B), HUEC 2009 (AH25B), HUEC 3017 (AH 31D), HUEC 3000 (AH31B), HUEC 3018 (AH 37D), HUEC 3021 (AH39C), HUEC 3010 (AH37A), HUEC 3019 (AH38A), HUEC 3007 (AH35A), HUEC 3011(AH37B).

Nutritional Sciences Major

HUEC 2000 (AH20A), HUEC 2001 (AH21A), HUEC 2014 (AH26B), HUEC 2002 (AH22A), HUEC 2011 (AH21B), HUEC 3001 (AH32A), HUEC 3014 (AH 32B), HUEC 3021 (AH39C), HUEC 3016 (AH 34C), HUEC 3015 (AH32C).

Foods and Food Systems Service Management Major

HUEC 2004 (AH23B), HUEC 2015 (AH23C), HUEC 2003 (AH23A), MKTG 2080 (MS20A), HUEC 3004 (AH33B), MGMT 2008 (MS22A), HUEC 3021 (AH39C), HUEC 3002 (AH33A), AGBU 3007 (AM37A), HUEC 3020 (AH33C).

4. **Chemistry**

i. CHEM 2160 (C20A), CHEM 2260 (C20B), CHEM 2360 (C20C), CHEM 2015 (C20D), CHEM 2025 (C20E).

ii. Plus thirteen (13) credits from CHEM 3000 (C30) level courses which must include CHEM 3660 (C30P) and at least six (6) credits from CHEM 3167 (C30A), CHEM 3267 (C30B) and CHEM 3367 (C30C).

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5. **Life Sciences**

Biochemistry Major

- i. BIOL 2361 (BC22A), BIOL 2362 (BC22B), BIOL 2363 (BC23A), BIOL 2364 (BC23B), BIOL 3361 (BC33A), BIOL 3362 (BC38B) and BIOL 3061 (BL38C)
- ii. Plus four (4) credits from (BIOL 3069 (BL33B), BIOL 3364 (BC37B), BIOL 3262 (BL38J), and BIOL 3865 (BL39A))

Biology Major

BIOL 2361 (BC22A), BIOL 2162 (BL27B), BIOL 2261 (BL28C), BIOL 3662 (BL36B), BIOL 3061 (BL38C), BIOL 3062 (Z36B), BIOL 2761 (BT27A), and BIOL 2862 (Z21F).

Environmental & Natural Resource Management

- i. AGSL 3002 (AS33D), AGSL 3004 (AS34D), BIOL 3463 (BL39B), BIOL 3464 (BT37E), BIOL 2461 (Z24B), BIOL 3062 (Z36B)
- ii. Plus eight (8) credits from BIOL 2062 (Z23B), BIOL 2063 (Z23C), BIOL 3461 (Z31A), BIOL 3864 (Z34D), AGEX 2001 (AX25B), AGBU 3003 (AM33D), CHEM 3560 (C30E), BIOL 3069 (BL33B), AGRI 3001 (AG39A), AGBU 3010 (AM39A).

Zoology

- i. BIOL 2861 (Z21E), BIOL 2862 (Z21F), BIOL 3861 (Z33E), BIOL 3662 (BL36B).
- ii. Plus sixteen (16) credits from (BIOL 2866 (Z22B), BIOL 2864 (Z22C), BIOL 2063 (Z23C), BIOL 2062 (Z23B), BIOL 2461 (Z24B), BIOL 3461 (Z31A), BIOL 3864 (Z34D), BIOL 3863 (Z34E), BIOL 3062 (Z36B), BIOL 3069 (BL33B), BIOL 3464 (BT37E)).

6. **Computer Science**

- i. COMP 2000 (CS20A), COMP 2100, (CS20E) COMP 2200 (CS21E), COMP 2500 (CS24E), COMP 3000 (CS30E), COMP 3100 (CS31A)
- ii. Plus eight (8) credits of Level II/III.

7. **Mathematics**

- i. MATH 2100 (M20A), MATH 2110 (M20B), MATH 2120 (M21A), MATH 2160 (M21B).
- ii. Plus sixteen (16) credits from other Level II/III courses in Mathematics. At least eight (8) of these sixteen (16) credits must be from Level III Mathematics courses.

NB. Double Major in Mathematics (subject to availability of courses)

Sixty-four (64) credits from Level II and Level III Mathematics courses including MATH2100 (M20A), MATH 2110 (M20B), MATH 2120 (M21A) and MATH 2160 (M21B) where at least thirty-two (32) credits must be from Level III Mathematics courses.

8. **Physics**

- i. PHYS 2280 (P28A), PHYS 2281 (P28B), PHYS 2283 (P28D), PHYS 3385 (P38F), PHYS 3387 (P38P).
- ii. Plus twelve (12) credits from PHYS 2282 (P28C), PHYS 3381 (P38B), PHYS 3383 (P38D), PHYS 3384 (P38E).

9. **Geography**

Levels II and III will not be offered in 2005/06.

- NB.: (a) Course requirements for degrees offered by the School of Agriculture as well as those for the Chemistry and Management and Computer Science and Management special options are outlined under the respective departmental listings in this booklet.
- (b) Requirements for minors and areas of specialisation in other disciplines are listed under the individual departmental sections of the booklet.

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**APPENDIX VI
MINORS**

In order to obtain a minor in a particular area of specialization, candidates are required to complete a minimum of fifteen or sixteen credits of Level II/III courses, together with any necessary Level I prerequisite courses. These are specified below.

1. ENTREPRENEURSHIP

- (a) **Prerequisites:** AM15A and AM15B.
- (b) AGBU 3001 (AM32A), AGBU 3007 (AM37A).
- (c) At least seven (7) credits from: AGBU 3006 (AM36A), MGMT 3032 (MS33C), MGMT 2021 (MS27A), MGMT 2007 (MS21E), HUEC 3004 (AH33B), BIOL 3863 (Z34E), AGBU 3003 (AM33D), AGBU 3009 (AM32E).

2. COMMUNICATIONS AND EXTENSION

- (a) **Prerequisites:** AX15C, AM15A and AM15B.
- (b) Plus 16 credits from: AGEX 2001 (AX25B), AGEX 3000 (AX30A), AGEX 3012 (AX312), AGEX 3004 (AX36B), AGEX 3003 (AX39A), AGEX 3001 (AX35A).

3. SPORTS NUTRITION

- (a) **Prerequisite:** HUEC 1003 (AH12B).
- (b) **Co-requisite:** HUEC 2001 (AH21A) for Course AH20C.
- (c) Plus: HUEC 3016 (AH 34C), HUEC 2012 (AH20C), HUEC 3014 (AH32B), HUEC 3021 (AH32C). And at least 3 credits from: MGMT 2010 (MS22M), MGMT 3027 (MS32N), MGMT 2022 (MS27E), AGEX 3004 (AX36B), PSYC 2012 (PS24E), HUEC 3007 (AH35A), SOCI 3005 (SY31C), AGBU 3007 (AM37A), MGMT 2009 (MS22G), MGMT 2007 (MS21E).

**4. ENVIRONMENTAL AND NATURAL RESOURCES
MANAGEMENT**

Any sixteen (16) credits from BIOL 3464 (BT37E), BIOL 3461 (Z31A), BIOL 2461 (Z24B), BIOL 2063 (Z23C), BIOL 3864 (Z34D), AGSL 3004 (AS34D), AGSL 3002 (AS33D), BIOL 3463 (BL39B), BIOL 3062 (Z36B), AGRI 3001 (AG39A), AGBU 3010 (AM39A), AGBU 3003 (AM33D).

5. BIOTECHNOLOGY

Any sixteen (16) credits from BIOL 3762 (BT36D), BIOL 3763 (BT38L), BIOL 3262 (BL38J), BIOL 3061 (BL38C), BIOL 3865 (BL39A).

6. ENVIRONMENTAL BIOLOGY

Any sixteen (16) credits from BIOL 2063 (Z23C), BIOL 2062 (Z23B), BIOL 2461 (Z24B), BIOL 3062 (Z36B), BIOL 3464 (BT37E).

7. ZOOLOGY

Any sixteen (16) credits from BIOL 2861 (Z21E), BIOL 2862 (Z21F), BIOL 3861 (Z33E), BIOL 3662 (BL36B), BIOL 2866 (Z22B), BIOL 2864 (Z22C).

8. BOTANY

Any sixteen (16) credits from BIOL 2761 (BT27A), BIOL 3761 (BT31C), (BIOL 3763 (BT38L), BIOL 3762 (BT36D), BIOL 3765 (BT38G).

9. BIOLOGY

BIOL 2862 (Z21F), BIOL 2761 (BT27A) **and any eight (8) credits from the following:** BIOL 2261 (BL28C), BIOL 3061 (BL38C), BIOL 2162 (BL27B), BIOL3662 (BL36B), BIOL 3062 (Z36B), BIOL 2361 (BC22A).

10. BIOCHEMISTRY

BIOL 2361 (BC22A), BIOL 2363 (BC23A) **any sixteen (16) credits from:** BIOL 2362 (BC22B), BIOL 2364 (BC23B), BIOL 3361 (BC33A), BIOL 3364 (BC37B), BIOL 3362 (BC38B), BIOL 3061 (BL38C).

11. MARINE BIOLOGY

BIOL 2063 (Z23C), BIOL 3461 (Z31A), BIOL 3864 (Z34D), BIOL 3863 (Z34E).

12. CHEMISTRY (16 credits)

CHEM 2160 (C20A), CHEM 2260 (C20B), CHEM 2360 (C20C), and either CHEM 2015 (C20D), or CHEM 2025 (C20E).

13. ANALYTICAL CHEMISTRY (16 credits)

CHEM 2460 (C20F), CHEM 3467 (C30F), CHEM 3468 (C31F).

14. COMPUTER SCIENCE (16 credits)

COMP 2000A (CS20A), COMP 2500 (CS24E) **and any eight (8) credits from:** COMP 2200 (CS21E), COMP 2700 (CS27E), COMP 3000 (CS30E), COMP 3100 (CS31A), COMP 3150 (CS32A), COMP 3250 (CS32F).

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15. MATHEMATICS (16 credits)

Students are required to do any 2 of the levels II and III core courses of the Mathematics major including either M20A or M21A and any 2 other Mathematics courses at Level II/Level III.

16. APPLIED PHYSICS (16 credits)

Electronics

PHYS 2282 (P28C), PHYS 2291 (P29B), PHYS 3382 (P38C), PHYS 3391(P39B).

Medical Physics and Bioengineering

PHYS 2290 (P29A), PHYS 2291 (P29B), PHYS 3391 (P39B), PHYS 3390 (P39A).

Environmental Physics

Any four (4) of:

PHYS 2292 (P29C), PHYS 2293 (P29D), PHYS 3392 (P39C), PHYS 3393(P39D), PHYS 2295 (P29F).

Material Sciences

Any four (4) of:

PHYS 2294 (P29E), PHYS 3394 (P39E), PHYS 3396 (P39G), PHYS 3395 (P39F), PHYS 2295 (P29F).

APPENDIX VII

1. GRADING SCHEME

The Grading Scheme used in the Faculty of Science & Agriculture is as follows:

(For students entering the Faculty prior to 2003/04).

CLASS OF HONOURS	GRADE	PERCENTAGE
First A+	85 - 100	
	A	76 - 84
	A-	70 - 75
Upper Second	B+	60 - 69
Lower Second	B	50 - 59
Pass C	40 - 49	

For students entering the Faculty from 2003/04 onwards, the GPA system and the associated regulations are in effect:

Mark	Grade	Quality Points
86-100	A+	4.3
70-85	A	4.0
67-69	A-	3.7
63-66	B+	3.3
60-62	B	3.0
57-59	B-	2.7
53-56	C+	2.3
50-52	C	2.0
47-49	C-	1.7
43-46	D+	1.3
40-42	D	1.0

Minimum pass grade is a D with a quality point of 1.0.

2. CLASS OF HONOURS

Honours	GPA
First	3.60 - 4.3
Upper Second	3.0 - 3.59
Lower Second	2.0 - 2.99
Pass	1.0 - 1.99

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APPENDIX VIII

LIST OF EXEMPTIONS WITH CREDIT

1. Graduates with Diplomas/Associate degrees in relevant fields from recognized institutions will be granted exemptions on the basis of performance. Students admitted with a **Cumulative GPA of 2.75 or higher**, will be granted exemption with credit in accordance with the following scheme from 2005/2006. Students entering the FSA with a GPA less than 2.75 will **not normally** be granted exemptions with credits.

- (a) **ECIAF/CASE-Agriculture graduates admitted to FSA BSc. programmes in Agriculture.**

All such students will be granted exemption with credit from: AGRI 1000 (AG133) and AGEX 1000 (AX15C). However, **students admitted with a GPA of 2.75 or above in addition would be granted exemption with credit from the following:**

Level I: AGBU 1005 (AM15A), AGBU 1006 (AM15B), AGSL 1000 (AS16B), AGRI 1003 (AG14C), AGLS 1001 (AL13C) AGRI 1016 (AG11B).

Level II: AGEX 2001 (AX25B).

- (b) **COSTAATT Associate Degree in ENVIRONMENTAL MANAGEMENT: Graduates with a GPA of 2.75 or better admitted into the ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT PROGRAMME** will be exempted with credit from the following:

BIOL 1462 (BL11G), AGBU 1005 (AM15A) AND AGBU 1002 (AM17B).

- (c) **COSTAATT Associate Degree in ENVIRONMENTAL TECHNOLOGY: Graduates with a GPA of 2.75 or better admitted into the ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT PROGRAMME** will be exempted with credit from the following:

BIOL 1462 (BL11G), AGRI 1013 (AG10B), AGSL 1000 (AS16B), AGBU 1002 (AM17B).

- (d) **COSTAATT Associate Degree in ENVIRONMENTAL ENGINEERING: Graduates with a GPA of 2.75 or better admitted into the ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT PROGRAMME** will be exempted with credit from the following:

AGSL 1000 (AS16B).

2. **HUMAN ECOLOGY PROGRAM**

- (a) A student with a CAPE (GCE A-Level) or equivalent pass in a Food and Nutrition related subjects will be exempted with credit from HUEC 1003 (AH12B).
- (b) Associate degree holders from TTHTI with GPA of 2.75 or better will be exempted with credit from HUEC 1004 (AH13B), COMP 1011 (CS10M) and ACCT 1002 (MS15E).

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FACULTY PRIZES

PRIZES

The following is a list of Campus Faculty and Departmental Prizes awarded annually in the Faculty of Science & Agriculture.

FACULTY PRIZES

- i. A First Year Faculty prize of books to the value of two hundred and fifty dollars (\$250.00) awarded to the Level I student with best academic performance.
- ii. A Second Year Faculty prize books to the value of two hundred and fifty dollars (\$250.00) awarded to the Level II student with the best academic performance.
- iii. A Silver Gilt medal awarded to Level III (Final) year student with the best academic performance.

SCHOOL OF AGRICULTURE

AGRICULTURAL ECONOMICS & EXTENSION DEPARTMENT

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Agricultural Economics and Extension: Year I

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Human Ecology: Year I

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Human Ecology: Year I

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Agribusiness Management: Year II

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Human Ecology: Year II

THE JOE PIRES MEMORIAL PRIZE (formerly THE CARIBBEAN CHEMICALS & AGENCIES LTD)

Awarded for the best performance in Agricultural Extension: Years II & III

PETROTRIN BOOK PRIZE

Awarded for the best performance in Agribusiness Management over Years II & III

PETROTRIN BOOK PRIZE

Awarded for the best performance in Agricultural Economics over Years II & III

DR. SUNNEY D. ALEXIS MEMORIAL PRIZE

Awarded for the best performance in the Human Ecology: Year III

THE CHELSTON W.D. BRATHWAITE PRIZE

Awarded for the best final year project demonstrating excellence in Project Management: Year III

THE MARKETING & DISTRIBUTION PRIZE

Awarded for the best performance in Marketing: Year III

THE SCOTIABANK PRIZE

Awarded for the best performance in Finance and Accounting: Year III

THE AGRIBUSINESS COMMUNITY SERVICE PRIZE

Awarded for outstanding service to the Agribusiness Community donated by Agribusiness Alumni: Year III

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in B.Sc. Human Ecology – General Option: Year III

DEAN'S PRIZE

Awarded for the best performance in the Diploma in Institutional; And Community Dietetics and Nutrition: Year III

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SPECIAL PRIZES

THE T.P. LECKY AWARD

Challenge Trophy donated by the Caribbean Agricultural Research and Development Institute (CARDI).
Awarded for the best performance in all the degrees in the School of Agriculture over Years I to III.

CURRIE MEMORIAL PRIZE

For the student who excelled in extra curricular activities subject to satisfactory academic performance.

MARCHIONESS OF ANGLESEY PRIZE

For the best all-round First Year Student

GARDEN CLUB OF TRINIDAD AND TOBAGO PRIZE

Awarded to the best practical paper on a Horticulture related topic

DEPARTMENT OF FOOD PRODUCTION PRIZES

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Agriculture – General: Year I

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best performance in Agriculture – General: Year II

THE J. SIDNEY DASH PRIZE

Awarded for the best performance in Crop Science over Years II & III

FREDERICK HARDY PRIZE

This prize should be awarded to the Part III student who obtains the highest average marks in courses taken in Soil Science at the Parts II and III examinations including the Project.

THE LE GENDRE & CO. LTD. PRIZE

Awarded for the best performance in Crop Science over Years II & III

THE P.V.C. B. TEWARIE PRIZE

Awarded for the best performance in Agriculture - General: Years II & III

S. NORMAN GIRWAR AWARD FOR EXCELLENCE

B.Sc. Agriculture (General) degree, School of Agriculture. The student should demonstrate an interest in sugar or sugarcane in his Research Project which may be carried in any Department of the Faculty. Nomination of candidates would be done in consultation with the Head, Department of Agricultural Economics and Extension.

W.E. FREEMAN PRIZE

This prize valued at \$500.00 cash and \$500.00 trophy is awarded to the best final year project on the Biology of Cocoa and is a joint School of Agriculture/School of Natural Sciences Prize.

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SCHOOL OF SCIENCE

LIFE SCIENCES DEPARTMENT

THE METROPOLITAN PRIZE

Awarded for the best Year I performance in Life Sciences Courses

THE NORVATIS PRIZE

Awarded for the best Final Year Project in the Department of Life Sciences

PLANT SCIENCE

PROFESSOR E.J. DUNCAN PRIZE

Awarded for the best Year I performance in Plant Science by a student continuing in Life Sciences

THE STEEDE MEDICAL CARIBBEAN LTD. PRIZE

Awarded for the best Year II performance in Plant Science

THE REPUBLIC BANK LTD. PRIZE

Awarded for the best Year III performance in Plant Science

BIOCHEMISTRY

THE PI CARIBBEAN LIMITED PRIZE

Awarded for the best Year II performance by a student majoring in Biochemistry

THE ANGOSTURA LIMITED PRIZE

Awarded for the best Year III performance by a student majoring in Biochemistry

ZOOLOGY

THE PROFESSOR P.R. BACON PRIZE

Awarded for the best Year I performance in Zoology for a student continuing in Life Sciences

THE SEETERAM BOOK CENTRE PRIZE

Awarded for the best Year II performance in Zoology – Book Voucher Prize

THE LEXICON TRINIDAD LTD. PRIZE

Awarded for the best Year III performance in Zoology for a student continuing in Life Sciences

BIOLOGY

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best Year II performance in Biology

THE HEAD OF DEPARTMENT PRIZE

Awarded for the best Year III performance in Biology

**ENVIRONMENTAL & NATURAL RESOURCE
MANAGEMENT**

**THE ASA WRIGHT NATURE CENTRE-JULIAN DUNCAN
PRIZE**

Awarded for the best Year I performance in Environmental & Natural Resource Management

**THE ASA WRIGHT NATURE CENTRE - THOMAS CARR
PRIZE**

Awarded for the best Year II performance in Environmental & Natural Resource Management

THE ASA WRIGHT NATURE CENTRE – IAN LAMBIE PRIZE

Awarded for the best Year III performance in Environmental & Natural Resource Management

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POSTGRADUATE STUDIES

THE ENVIRONMENTAL MANAGEMENT AUTHORITY (EMA) PRIZE

Awarded for the best performance in the MSc in Science for the Management of Tropical Environments

THE EPAS CONSULTANTS PRIZE

Awarded for the best research project in the MSc in Science for the Management of Tropical Environments

CHEMISTRY DEPARTMENT

THE WESTERN SCIENTIFIC PRIZE

Awarded for the best Year I performance in Chemistry

THE BERGER PAINTS TRINIDAD LTD. PRIZE

Awarded for the best Year II performance in Chemistry

THE CHROMASPEC LTD. PRIZE

Awarded for the best Year II performance in Chemistry & Management

THE INDUSTRIAL GASES LTD. PRIZE

Awarded for the best Year III performance in Chemistry

THE PENTA PAINTS TRINIDAD LTD. PRIZE

Awarded for the best graduating student in Chemistry

THE PERKIN ELMER/EMPIRE SALES & AGENCIES PRIZE

Awarded for the best performance in Analytical Chemistry

THE WESTERN SCIENTIFIC PRIZE

Awarded for the best Year III performance in Chemistry & Management

**MATHEMATICS &
COMPUTER SCIENCE DEPARTMENT**

MATHEMATICS

THE POWERGEN PRIZE

Awarded for the best Year I performance in Mathematics

THE GUARDIAN LIFE OF TRINIDAD & TOBAGO PRIZE

Awarded for the best Year II performance in Mathematics

THE TATIL GROUP PRIZE

Awarded for the best Year III performance in Mathematics

THE JOHN ALEONG PRIZE IN STATISTICS

Awarded for the best Year III performance in Statistics

COMPUTER SCIENCE

THE IBM WORLD TRADE PRIZE

Awarded for the best Year I performance in Computer Science

THE DIGI-DATA SYSTEMS PRIZE

Awarded for the best Year II performance in Computer Science

THE FUJITSUTRANSACTION SOLUTION LIMITED PRIZE

Awarded for the best Year III performance in Computer Science

COMPUTER SCIENCE AND MANAGEMENT

THE FUJITSU-ICL PRIZE

Awarded for the best Year III performance in Computer Science

THE bp TRINIDAD & TOBAGO LLC PRIZE

Awarded for the best Year II performance in Computer Science & Management

POSTGRADUATE AWARD

THE MICROSOFT TRINIDAD & TOBAGO LIMITED PRIZE

Awarded for the best M.Sc. Computer Science project

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PHYSICS DEPARTMENT

THE VICAR ENTERPRISES LTD. PRIZE
Awarded for the best Year I performance

THE BERGER PAINTS TRINIDAD LTD. PRIZE
Awarded for the best Year II performance

THE P.C.S. NITROGEN PRIZE
Awarded for the best Year II performance in Material Science

THE UNIT TRUST CORPORATION PRIZE
Awarded for the best Year III performance

THE ANTHONY CAMPBELL MEMORIAL AWARD
Awarded for the best Year I performance

THE TRINIDAD AGGREGATE PRODUCTS PRIZE
Awarded for the best performance in Ceramics

THE TRINIDAD & TOBAGO TELECOMMUNICATION
SERVICES (TSTT) PRIZE
Awarded for the Best Overall student in Electronics

THE CARIRI PRIZE
Awarded for the best Year III performance in Material Science

THE MAURA IMBERT PRIZE
Awarded for the best Year III performance in Astronomy &
Optics

SPECIAL PRIZES

TRINIDAD & TOBAGO
SCIENTIFIC ASSOCIATION (TTSA) PRIZE
Awarded to the best all-round student in Year II who has
performed well academically and who is actively involved in
the promotion of Science in the Society

CARIBBEAN ACADEMY OF SCIENCES (CAS) PRIZE
Awarded to the best Year II student of the Faculty

THE COATES BROTHERS CARIBBEAN LTD. PRIZE
Awarded for the best overall performance over the 3-Year
Programme

THE FACULTY NOMINEE FOR THE BWIA STUDENT OF THE
YEAR PRIZE

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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**THE LIBRARY
RULES FOR READERS
ST. AUGUSTINE**

RULES FOR LIBRARY USERS

1. **SEMESTER**

Monday to Friday	8:30 a.m.	-	10:00 p.m.
Saturday	8:30 a.m.	-	5:00 p.m.

CHRISTMAS VACATION & SUMMER VACATION

Monday	8:30 a.m.	-	6:30 p.m.
Tuesday to Friday	8:30 a.m.	-	5:00 p.m.
Saturday	8:30 a.m.	-	12:30 p.m.

COMPUTER LAB "STARRS" & READING ROOM

Monday to Friday	10:00 p.m.	-	6:00 a.m.
Saturday	5:00 p.m.	-	6:00 a.m.
Sunday	12:00 noon	-	6:00 p.m.

SUMMER SCHOOL

Monday to Wednesday	8:30 a.m.	-	10:00 p.m.
Thursday to Saturday	8:30 a.m.	-	5:00 p.m.

Vacation hours will apply to the first week of each academic year.

MEMBERSHIP

UWI:-

2. The Library is open to registered graduate and undergraduate students and staff of all campuses of The University of the West Indies.
3. Non-UWI:-
 - a. Visiting research workers, faculty and students of other universities and tertiary level institutions may be granted reading and reference privileges on recommendation of a faculty member and at the discretion of the Librarian.*
 - b. Other non-university persons over the age of 16 may be granted reading and reference privileges. This is, however, subject to a review by the Librarian on duty and is dependent on the specific need of the particular person.
 - c. A fee may charged for long periods of use or repeated use as outlined in Information Bulletin No. 9 (Rev.).
 - d. Users in this category are not allowed loans.

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LOANS

General

4. No book, periodical or other library material may be removed from the Library unless it has been legitimately charged out at the Loans Desk and the date label stamped by a member of staff on duty. A user is responsible for any book or other item borrowed in his/her name. This responsibility ends only when the loan is officially cancelled. Failure to comply with this rule will be treated as a major and deliberate offence.
5. Users' identification cards are not transferable. It is a major offence to lend or borrow identification cards. Persons contravening this rule may have their library privileges withdrawn or may be referred to the Principal for further action.
6. Certain publications may not be removed from the Library. These include all materials from the West Indiana & Special Collections Division as well as reference books, specially marked items from the closed reserve collection and works of special value. All such material will be clearly marked.
7. Loans may extend for varying periods depending on the extent of demand for each item. All material loaned will be subject to recall by the Librarian at any time. No loans may be renewed for more than seven (7) days.

In cases where a book issued on loan is requested by another user it may be recalled after it has been on loan for a minimum of seven days. A new date due is assigned and fines are charged for non-return of the item after the new date.

Undergraduates

8. Undergraduate students of the University may have on loan up to six (6) books at a time. They may not borrow serials. Two Reserve items may be borrowed at a time either for use in the Library or on overnight loan. Two additional items from the Reserve Collection may also be borrowed for three (3) or seven (7) days.

THE UNIVERSITY BOOKSHOP

The University Bookshop is your source for essential texts. The shop also stocks stationery items and books of general interest. A select range of insignia items has recently been introduced. These include mugs, T-shirts, caps and stationery.

An order service is available to students who require books not stocked at the Bookshop. Using the most up to date reference tools, prices are determined and a 50% down payment is required to initiate the order process. Other services include film processing, binding of term papers and projects, and photocopying.

In keeping with its objective of providing texts at the lowest cost, as well as satisfying the diverse needs of the University community, the Shop staff welcomes comments from those it serves.

Situated at the northern end of the Campus, the Shop's opening hours are as follows:

Monday - Thursday - 8.30 a.m. - 4.00 p.m.
Friday - 8.30 a.m. - 4.15 p.m.

The Management and Staff look forward to serving you.

UNDERGRADUATE REGULATIONS & SYLLABI 2005 - 2006
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GLOSSARY OF TERMS

	TERM	DEFINITION
1.	Co-requisite	A course which must be taken along with another specified course, in order to ensure the attainment of the complementary and/or independent competencies.
2.	Course	A body of knowledge circumscribed by a syllabus to be imparted to students by sundry teaching methods and usually followed by an examination. A course may be either compulsory or elective.
3.	Credit	A measure of the workload required of students. 1 Credit Hour – 1 hour lecture/tutorial/problem class per week OR 2 hours laboratory session per week for a semester.
4.	Discipline	A body of knowledge distinguishable from other such bodies on the basis of criteria such as method of enquiry, axioms, area of application.
5.	Elective	A course within a programme taken by choice of the student.
6.	Level	A state in a programme for which courses are designed (at UWI marked by the first digit in a course number).
7.	Major	A specified number of credits including prescribed courses from Level II & III from a single discipline (see Departmental course listing). Students must declare their proposed major by registration for the final year before the close of registration in the semester (including summer) in which they expect to complete.
8.	Marginal failure	35 to 39% score for the overall examination.

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| 9. Minor | A specified number of credits (usually 15 or 16) including prescribed courses from Levels II & III from a single science discipline (see Departmental course listings). | 15. Subject | An area of study traditionally assigned to the purview of a department. |
| 10. Option | A prescribed combination of courses, within the Faculty or across Faculties, leading to a degree. | 16. Supplemental Examination | A re-sit of the examination(s) offered on recommendation of departments and Faculty, to candidate who, having passed course work, have registered a marginal failure. |
| 11. Part | Portion of a programme defined by the regulations governing the programme. | 17. Supplemental Oral | An oral examination, offered on recommendation of Departments and Faculty, to candidates who have registered a marginal failure in a course(s) essential to complete graduation requirements. |
| 12. Prerequisite | A course which must be passed before the course for which it is required may be pursued. | (Footnotes)
¹ The existing BSc Human Ecology degree (with options in Nutrition and Dietetics and Consumer Sciences) will be phased out by 2006-2007. Accordingly, no new registration is being accepted for this degree.
² The existing BSc Human Ecology degree (with options in Nutrition and Dietetics and Consumer Sciences) will be phased out by 2006-2007. Accordingly, no new registration is being accepted for this degree. | |
| 13. Programme | A selection of courses (designed to achieve pedagogical goals) the taking of which is governed by certain regulations and the satisfactory completion of which (determined by such regulation) makes a candidate eligible for the award of a degree/diploma/certificate. | | |
| 14. Semester GPA | GPA computed on the basis of all courses done in a semester, without reference to weighting except in terms of credits. (The terms Grade Point, GPA, Quality Hours and Quality Points are defined in the UWI Grade Point Average Regulations Booklet). | | |

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