UNIVERSITY of GUYANA

Title of Programme:	**BSc. Degree in Environmental Management and Technology**

Administrative Oversight: Office of the Vice chancellor

Academic Department: Department of Environmental Studies

Date of Commencement: September 2015.

Programme Description

How can we best manage the environment, given the pressures that threaten its future? How do we design more sustainable practices and use technology effectively while doing so? The BSc (Honours) Environmental Management and Technology is a must for anyone with an interest in this critical subject. Students'll explore the complexities of the natural and built environments; how our activities influence them both; and how they influence what we do, whether at home, in communities or in organisations. This interdisciplinary degree combines aspects of science, management, technology and social science to help students understand the environmental systems in which we live and work, and how we can improve the way we act within them. They'll gain the knowledge and skills needed to understand and manage local, national and international environmental problems more sustainably, as well as developing their analytical, design and systems thinking skills.

Educational aims

This degree aims to provide a broad knowledge and understanding of how the environmental impacts of technology in human activity systems can be shaped and managed in innovative ways and broad skills in the use of systematic and systemic techniques to improve environmental management through ethical actions at individual, organizational and societal levels.

More specifically, the degree aims to develop student knowledge and understanding of:

- the scientific, technical and socio-economic factors involved in the environmental impacts of complex human activity systems
- the impacts of energy use, waste management and environmental pollution and some of the technologies associated with them
- systematic and systemic thinking practices to better analyse complex human activity
- systems involving people and technologies.

It also aims to develop the following skills:

- use of tools, methods and technologies that can be used to better seek appropriate information, to enhance design tasks and to improve the 'managing' practices that will contribute to environmental improvements in complex human activity systems.
- synthesis, analysis and communication, utilising digital technologies to improve learning and performance.

Learning outcomes

Knowledge and understanding

On completion of this degree, students will have knowledge and understanding of the:

- scientific, technological, social and economic factors that influence complex environmental situations
- principles of managing complex environmental problems involving impacts from human activities
- principles and methods for assessing and evaluating environmental situations and environmental impacts
- core concepts necessary for systematically and/or systemically analysing complex situations involving people, technologies and organisations.

Cognitive skills

On completion of this degree, they will be able to:

- discuss the technological, economic, commercial, social and other factors that influence environmental management
- discuss the scientific and engineering techniques and tools to evaluate and predict the effects of resource management activities on the environment
- apply systems concepts and techniques to engage with complex environmental management problems
- compare, contrast and critically assess different approaches and techniques for solving environmental management problems.

Practical and/or professional skills

On completion of this degree, the students will be able to:

- apply the principles, concepts and techniques of scientific, engineering and systems thinking for understanding, assessing, and managing environmental problems

- develop practical skills in the use of quantitative and qualitative models to understand, analyse and recommend improvements to a range of situations and systems involving environmental impacts
- develop practical skills in the use of digital technologies for finding and analysing information, and for effectively communicating and cooperating with work colleagues.

Key skills

On completion of this degree, they will be able to:

- use appropriate numerical and mathematical techniques
- learn and perform more effectively by reflecting on practice
- interpret and critically analyse specialist sources of information and extract relevant information.

Teaching, learning and assessment methods

Knowledge and understanding, cognitive and key skills will be taught through print and online resources, involving various activities, audiovisual and software tools. These resources will both bespoke and externally sourced. This will be assessed through a mix of tutor-marked assessments (TMAs), unseen examinations and end-of-module assessments (EMAs).

Justification for the programme and expected annual student intake

The global environmental realities and issues of today; and the crucial role Guyana is playing underscore the importance of this programme. The carbon credit and the environmental threat that Guyana and indeed the Caribbean region face as a result of susceptibility to natural upheavals speak to the need for this programme.These have social and economic implications. The programme is thus designed to increase the pool of persons in Guyana who are qualified to contribute to the social and economic competiveness of the country.The BSc (Honours) Environmental Management and Technology develops broad and specialist skills that are in demand from government and regulatory bodies, the private sector, consultancies, conservation organisations and academic institutions.

Careers directly related to the degree include:

- pollution control
- waste management and recycling
- water quality and resources
- energy management
- planning and sustainability
- environmental management and consultancy
- environmental education.

Graduates can also go into financial, business and public sector work.

This degree course is designed to develop breadth and depth of understanding in scientific, technical and management aspects of environmental problems.

Students'll be able to:

- think creatively
- tackle complex issues
- collect, analyse and interpret complex quantitative and qualitative data.

They'll also gain practical skills in problem solving, project work (including research, planning, auditing and survey techniques), digital literacy, communication, and interdisciplinary team working. Together they demonstrate an all-round ability which will be valued by employers, who also rate the self-motivation of University of Guyana students very highly. . And within the context of Open Education; it is to, like other programmes, ensure availability and accessibility especially those in the hinterland.

The initial intake will be 50 students. Preference will be given to applications living outside of Region 4 and 6 in Guyana and all school teachers irrespective of where they reside.

Commencement date: September , 2015.

Entry Requirements: CXC or CSEC with passes in Mathematics, English, and 3 other subjects at grades I,II,III. Mature candidates with lesser qualifications must pass the UG entrance examination before being admitted into the programme.

Duration: Within the context of the Open Education philosophy the duration depends on the entry point and how fast an individual can progress. The programme is organized into four (4) stages; and is designed to be completed between 4 to 8 years.

Programme Evaluation and Grading Scheme: The programme will be evaluated through course work four (4) assignments with a weight of 10% each (total 40%) and final examination with a weight of 60%.

Programme Details

Students are expected to complete 360 credits of studies to be awarded the degree in four stages. This is arranged into 90 credits per stage.

Credits measure the student workload required for the successful completion of a study programme or qualification - one credit represents about 10 hours of study. At the UG, students'll be awarded credit after they have successfully completed a module. For example, if you study a 60-credit module and successfully pass it, you will be awarded the full 60 credits.

Stage	UG Course Code	OU Course code	Course Title	Credits
1	ENG 1108		Introduction to the Use of English	10
1	ENG 1208		Technical Communication	10
1	ESO1001	U116	Environmental journeys through a changing world	60
1	ESC1002	T213	Energy and sustainability	30
				100 credits
2	ESO2001	S104	Exploring science	60
2	ESO 2002	T 219	Environmental management 1	30
				90credits
3	ESO3001	S216	Environmental science 1	60
3	ESO3002	T313	Renewable energy	30
				90credits
4	ESO 4001	T319	Environmental management 2	30
4	ESO4002	T325	Innovation: designing for a sustainable future	60
				90credits
			Total	**380credits**

Collaborating Institutions: Ministry of Education and Open University, UK

Students graduate with 360 credits with optional courses at stages 3 and 4

COST: The cost per year is G$ 2500 (Two thousand and five hundred Guyanese Dollars) per credit.

Grading Scheme:

A	100 - 75%
B	74 - 65%
C	64 - 55%
D	54 - 40%
F	39 % & below Fail

Course Outlines

Course Code	ENG 1108
Course Title	The Use of English
Number of Credit	10 credits
Programme Stage	One
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Course summary

The Introduction to the Use of English is a foundation course required for students who enter the University of Guyana and are largely from Creole speaking backgrounds. The course introduces students to language as it is used in academic settings and targets the development of reading and writing skills for the tasks required at university. It aims to provide interactive settings for students to develop and increase their language awareness and attain confidence to aim for mastery of oral and written Standard English.

Learning outcomes

At the end of the course the student would increase their:

- language awareness;
- skills in listening/viewing/reading and responding to English used in academic settings;
- critical thinking and level of comprehension of written English;
- skills in writing well-developed essays on topical issues;

Course content:

- Introduction to language in the Guyana context
- Different types of writings
- Rhetorical strategies and paragraphing
- Literal and interpretative meanings
- Higher order level of thinking; analysis, synthesis and evaluation
- Sentence construction.
- Essay writing – topic, thesis , paragraphing, structure and development

Evaluation

Grammar- punctuation, vocabulary, verbs, tenses Evaluation: Course work: Portfolio (5 pieces)
Two in-class tests = 50%Examination: One three-hour written paper = 50

Grading Scheme:

A   100 - 75%
B   74 - 65%
C   64 - 55%
D   54 - 40%
F   39 % & below Fail

Recommended Readings

Bailey, S (2011). *Academic Writing: A Handbook for International Students*. 3rd Ed. Londin: Routledge.

Gillett, A. (2012). *Using English for Academic Purposes: A Guide for Students in Higher Education*, Online at http:www.uefap.com

Lowe, C and Zemliansky, P. (eds) (2009). Writing Spaces: Readings on Writing. Vol. 1 indiana: Parlour Press

Lowe, C and Zemliansky, P. (eds) (2009). Writing Spaces: Readings on Writing. Vol. 2 indiana: Parlour Press

Course Outlines

Course Code	ENG 1208
Course Title	Technical Communication
Number of Credit	10 credits
Programme Stage	One
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Course summary

This course is designed to help students develop the communication skills that are essential for individuals to competently function in a professional, scientific or technical environment. It is intended to develop students' proficiency in writing reports that reflect extensive knowledge and clear understanding of the procedures/methods employed in acquiring and analyzing data.

Learning outcomes

At the end of the course the student would be able to:

- develop an understanding of the fundamental characteristics and functions of technical communication
- apply current conventions and techniques to compose letters, memoranda, e-mail messages and other business correspondence
- engage in various stages of the planning and writing process to produce well-structured, well-written proposals and reports
- appropriately use information from the internet, library databases and other information sources
- increase their communicative competence in the use of English through form- and meaning-focused activities (e.g., language exercises, drama routines, and field excursions).

Course content:

- Introduction to Technical Communication (TC)

- Writing within an Organization: Format & Layout of Business Documents: Letters, Memoranda and Emails

- Writing Summaries

- Planning and Writing Proposals

- Designing and Delivering Oral Presentations

- Planning and Writing Technical Report.

Recommended Readings

1) Boveé, Courtland L. and John V. Thill. *Business Communication Today*. Eighth Edition. New Jersey: Prentice Hall, 2005.
2) Kennedy, Mary L. and Hadley M. Smith. *Reading and Writing in the Academic Community.* New Jersey: Prentice Hall, Inc.,1994
3) Kirszner, Laurine G. and Stephen R. Mandell. *The Holt Handbook.* Fifth Edition. San Diego: Harcourt Brace College, 1999
4) Markel, Mike. *Technical Communication: Situations and Strategies*. Fourth Edition. New York: St. Martin's Press Inc., 1996.
5) *Merriam-Webster's Guide to Business Correspondence*. Second Edition. Massachusetts: Merriam-Webster Inc., 1996.

Evaluation

Coursework: Three (3) assessments = 50%
Examination: One three-hour written paper   = 50%

 Note: Students MUST obtain a PASS in BOTH Coursework and Examination
        for successful completion of this course.

Grading Scheme:
A   100 - 75%
B   74 - 65%
C   64 - 55%
D   54 - 40%
F   39 % & below Fail

Course Outlines

Course Code	ESO1001 (U116)
Course Title	Environmental journeys through a changing world
Number of Credit	60
Programme Stage	One
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

Our world is changing fast – we are experiencing pressure from climate change, growing demands for finite resources and the extinction of many plants and animals. *Environment: journeys through a changing world* introduces you to environmental studies and the issues arising from environmental change. It shows how people are seeking positive solutions to environmental challenges where you live, in the Arctic, Africa, the Amazon and China. It also develops the key skills and concepts needed to understand our changing world. You do not need any prior environmental knowledge to study this key introductory Level 1 module, just an interest in the future of our planet.

Learning outcomes:

At the end of the course the student will:

- Have knowledge and understanding of various changes that confront the earth planet
- Demonstrate cognitively a rational approach to our changing world
- Develop more interest in the pursue of other courses that deal with environment, it management and preservation.

Course Content:

- Home and the environment
- Living in a connected world
- Life in a changing world
- Treading lightly on the earth.
- Low carbon living
- Building towards sustainability
- Carbon calculation
- Imaging theatric
- Ice core drilling
- Nile – it's limits
- The future is ours
- The forest is ours
- Amazon- people, basin and future
- China- on the move, feedind,materials.
- Cities and sustainability

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:

A   100 - 75%
B   74 - 65%
C   64 - 55%
D   54 - 40%
E   39 % & below Fail

Recommended texts:
All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO 1002 (T 213)
Course Title	Energy and sustainability
Number of Credit	30
Programme Stage	One
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

Are fossil fuels running out? Can nuclear power, carbon capture and storage or renewable energy sources provide solutions to the problem of global warming? How can we provide clean, safe, sustainable energy supplies for the Guyana, and the world, despite increasing population levels and affluence? In this module students will look at the basic principles underlying the design and efficient use of energy and energy supply systems. Using a range of study materials and online activities, they will learn to use the appropriate scientific and mathematical techniques applied to energy related issues.

Learning outcomes: At the end of the course students will
- discuss meaningfully the issues of fossil fuels and sources of energy in the world.
- Demonstrate how the use various scientific and mathematical principles and techniques tp address energy related issues.
- Demonstrate a more positive outlook toward the need for sustainability of the environment in the use of energy globally.

Course Content:
- Introducing energy systems and sustainability
- Primary energy
- Energy- uses and forms
- Oil and gas
- Oil and gas engines
- Electricity
- Nuclear energy
- Costing energy
- Penalties.

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:

A 100 - 75%

B 74 - 65%

C 64 - 55%

D 54 - 40%

F 39 % & below Fail

Recommended texts:

All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO2001(S 104)
Course Title	Exploring science
Number of Credit	60
Programme Stage	Two
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

This key introductory Level 1 course is an ideal starting point for studying the natural sciences – astronomy and planetary science; biology; chemistry, earth and environmental science; and physics. Using a blend of text and online study materials, this wide-ranging course investigates the major scientific issues affecting human society in the twenty-first century. You will explore the fundamentals of modern science and develop important scientific concepts and skills to give you a solid foundation for studying science at a higher level. You should have some basic mathematical skills and knowledge of basic science concepts before you begin.

Learning outcomes

Students would learn the methods of acquiring scientific information and important concepts used in biology, chemistry, Earth sciences, physics, astronomy and environmental science, and their relevance in everyday life.

They will develop skills enabling them to make sense of scientific information presented in a variety of ways (such as in books and by computer) and to communicate your knowledge of scientific topics.

The course will enable them develop appropriate mathematical skills so that they can process and present scientific data.

During the course, participants will carry out some practical work, recording their observations and measurements.

While studying a variety of interesting topics, this course will develop students' problem-solving abilities, mathematical and communication skills, and use of computers for learning and communication. All these skills are likely to be useful in a work context, particularly jobs requiring a precise and quantitative approach.

Overall, this course offers learning that provides an ideal general science foundation, upon which later more specialist science study can be built.

Course Content:

Exploring science uses the approaches taken by physicists, Earth scientists, biologists and chemists to develop your understanding of planet Earth.
   Topics covered broadly include:
   - Earth's materials and life forms.
    - Our Solar System.
   - Our galaxy and more distant galaxies that make up the Universe; and
    - The physical laws that govern the Universe.

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:
A   100 - 75%
B   74 - 65%
C   64 - 55%
D   54 - 40%
F   39 % & below Fail

Recommended texts:
All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO2002(T219)
Course Title	Environmental management 1
Number of Credit	30
Programme Stage	Two
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

Environmental management can be thought of as managing our relationship with the environment. For all of us, this relationship is under increasing pressure. Why is environmental management vital for our sustainability? What kind of environmental management do we need now? The aim of this module is to explore systemic answers to these and related questions by introducing ideas, approaches and techniques for environmental management at individual, organisational and community levels. Recognising that our understanding of human-environment relations is changing, the module combines conventional with innovative systems approaches to environmental management.

Learning outcomes:

When students have completed this module and the assessments, they will be expected to have achieved the following learning outcomes:

Knowledge and understanding

1. The framing of environmental management issues in relation to sustainable development.
2. The different meanings of environmental management, sustainability, sustainable development and environmental technologies.
3. A range of techniques and approaches used in 'conventional' environmental management.
4. A range of systems concepts and techniques for use with complex environmental situations.

Cognitive skills

1. Identify complex and 'messy' situations in environmental management.
2. Explain when to use environmental management techniques.
3. Select an appropriate mix of concepts and techniques for environmental management.
4. Assess the worldviews of stakeholders within environmental management situations.
5. Assess and critically evaluate both conventional environmental management and systems concepts and techniques, and provide an initial evaluation of your own competence in using them

Key skills

1.   Learn and communicate effectively about complex situations.
2.   Gather, analyse and synthesise a variety of data to explore, analyse and make sense of complex situations.
3.   Evaluate and improve your own learning and resulting skills competency in EM.

Practical and/or professional skills

1.   Make sense of a range of complex case studies in environmental management.
2.   Use some basic environmental management techniques.
3.   Explore a range of perspectives in a situation using systems concepts and techniques.
4.   Apply a variety of systems modelling techniques, including diagramming.
5.   Report on a situation and make initial recommendations emphasising the use of systems concepts and techniques.

Course Content:
-   Introduction to environmental management
-   Domestic environment- reflection, connecting and modeling.
-   Making a change through domestic management.
-   Environmental management in organisations
-   Environmental management; Groups and communities.
-   Doing- what next?

Evaluation:
-   Four course work assignments at 10% each (40%)
-   One final examination (60%)

Grading Scheme:
A   100 - 75%
B   74 - 65%
C   64 - 55%
D   54 - 40%
F   39 % & below Fail

Recommended texts:
All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO 3001 (S216)
Course Title	Environmental science 1
Number of Credit	60
Programme Stage	Three
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

This broad course draws together biology, chemistry, Earth science and physics. Students will develop a holistic approach encompassing the processes, links, interactions and feedback mechanisms that operate within different environments. Two multimedia interactive field trips feature in the course, in which they explore an area visually, observe habitats, gather data and analyse their observations. By the end of the course students will be able to 'lead' a group of students through a new virtual environment; make critical analyses of landforms, soils and water flows; identify habitats of flora and fauna; and comment on anthropogenic influences and their likely consequences.

Learning outcomes: At the end of the module students well
- Demonstrate knowledge and understanding of the integrated nature of science subjects that relate to the environment.
- Cognitively explain changes in the eco-systems as a result of human and non-human activities.
- Develop a more wholesome attitude towards the environment and it conservation

Course Content:
- Air
- Earth
- Water
- Life
- Landforms
- Cycles
- Extreme weather
- Atmospheric and Chemistry pollution
- Wetlands and carbon cycle
- Cryosphere
- Oceans and climates
- Water quality
- Grass and forest
- Biological conservation.

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:

A   100 - 75%
B   74 - 65%
C   64 - 55%
D   54 - 40%
F   39 % & below Fail

Recommended texts:
All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO3002 (T313)
Course Title	Renewable energy
Number of Credit	30
Programme Stage	Three
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

What does a sustainable energy system look like? How might renewable energy provide a much greater proportion of our energy needs in the coming decades? Which technologies and designs for the various renewable energy sources will we rely on to help us decarbonise our energy systems and maintain a secure supply of affordable electricity and heat? In this module students'll explore these questions by systematically reviewing the eight main renewable energy technologies. With the help of study guides, they will develop their ability to practically apply this knowledge – especially for solar thermal, solar photovoltaic and wind.

Learning outcomes: At the end of this course students will:

- Understand and be knowledgeable in the different forms of energy and the concept and principles of renewable energy.
- Have the skills to generate alternative forms of energy besides fossil fuel.
- Demonstrate the right attitude and knowledge toward global energy discussions.

Course Content:
- Introduction to renewable energy sources
- Energy in building
- Solar thermal
- Solar photovoltaic
- House energy assessment
- Bio-energy
- Hydroelectricity
- Tidal power
- Costing energy projects
- Wind energy
- Wave energy
- Integration.

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:

A   100 - 75%
B   74 -   65%
C   64 -   55%
D   54 - 40%
F   39 % & below Fail

Recommended texts:
All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO4001 (T319)
Course Title	Environmental management 2
Number of Credit	30
Programme Stage	Four
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

This module focuses on innovations in and the facilitation of environmental management concepts and practice. Students will examine systems theories in detail and have the opportunity to investigate complex situations at domestic, organizational and community levels. Using a relevant local example as a case study, they will gain different perspectives of environmental management situations, the views of stakeholders, how these are represented and the impact of these views for further action and innovation. This module is designed to follow and build on the ideas, tools and their uses introduced in *Environmental management 1*.

Learning outcomes:

Students at the end of the course will:

- have knowledge and understanding of the elements, processes and models of innovation.
- Cognitively apply knowledge gained in a life case setting
- Exhibit the right attitude to innovation that ensures environmental sustainability.

Course Content:

- Levels of environmental management:: domestic(individual), organization and community.
- Model of environmental management: *-reflection, connecting, modeling and taking action.*
- Individual level
- Organizational level
- Innovative techniques
- Community level
- Role of stakeholders
- Sustainability
- Practical project example(Heathrow airport, UK)
- Local example in Guyana(case study)

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:

A 100 - 75%
B 74 - 65%
C 64 - 55%
D 54 - 40%
F 39 % & below Fail

Recommended texts:
All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition

Course Outlines

Course Code	ESO4002 (T325)
Course Title	Innovation: designing for a sustainable future
Number of Credit	60
Programme Stage	Four
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Name of Lecturer(s): Not applicable (Programme Coordinator yet to be appointed)

Course summary

How do successful innovations emerge? How do designers, technologists, managers and end-users create and develop new ideas, designs and inventions? How are these translated into marketable products? This module examines these questions, but its concerns go beyond innovation just for commercial and competitive advantage. It also deals with the need for environmentally friendly and sustainable innovations.

Learning outcomes: At the end of the course the student will :
- Have knowledge and understanding of the concept , process and principles of innovation .

- Demonstrate cognitively the how ideas get to the market.

- Have practical and professional skills that will enable then carry out innovations the are environmentally friendly and sustainable.

Course Content:

Innovation: why people innovate, cost and complexity.

Innovation and the market

Ideas- how they are designed developed and manufactured.

How do products fair in the market.
.
Consumption of new ideas and relationship with sustainability.

Project: with emphasis on how students go through an innovation process to generate new product idea.

Evaluation:
- Four course work assignments at 10% each (40%)
- One final examination (60%)

Grading Scheme:

A   100 - 75%

B   74 - 65%

C   64 - 55%

D   54 - 40%

F   39 % & below Fail

Recommended texts:

All recommended text and reading materials will be provided to students and a tablet computer as part of the tuition