MASTER'S PROGRAMME in Sustainable Development

PROSPECTUS 2018

An inter- and trans-disciplinary global programme of studies of the theory and practice of sustainable development aimed at early and mid-career specialists and generalist professionals in the public, private and non-profit sectors

DELIVERED BY THE SCHOOL OF PUBLIC LEADERSHIP IN PARTNERSHIP WITH

- The Sustainability Institute
- Centre for Renewable and Sustainable Energy Studies, Stellenbosch University
- Stellenbosch Centre for Complex Systems in Transition, Stellenbosch University

Learning for Sustainable African Futures

SPL

SUSTAINABILITY INSTITUTE

UNIVERSITEIT STELLENBOSCH UNIVERSITY

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DIRECTIONS TO THE SUSTAINABILITY INSTITUTE (LYNEDOCH CAMPUS)

The **Sustainability Institute** is situated diagonally opposite Lynedoch train station at the intersection of the R310 (Baden Powell Drive) and Annandale Road, Lynedoch.

Since the recent, permanent closure of all railway level crossings on the R310 the Sustainability Institute can no longer be accessed via this intersection at the Zetler's Garage/Lynedoch train station entry point.

Access is now ONLY possible via Vlottenburg Road or Vlaeberg Road off either the R310 or M12 motorways.

This is a link to the Sustainability Institute on Google Maps:

https://www.google.co.za/maps/dir/-33.9828256,18.7683656/The+Sustainability+Institute,+Stellenbosch,+7603/@-33.982541,18.6948945,12z/data=!4m8!4m7!1m0!1m5!1m1!1s0x1dcc4cf1015a2725:0x43caa201822c1fc7!2m2!1d18.768713!2d-33.982563

The GPS coordinates are:

- Latitude: 33˚98' 25.63"
- Longitude: 18˚76' 87.13"

Approaching the Sustainability Institute from the N2:

- Take the Baden Powell Drive (R310) off-ramp (Exit 33) towards Stellenbosch.
- Proceed along the R310 for 11.5 kilometres until you reach the first set of traffic lights.
- The sign at this intersection will say Vlaeberg Road (M12) Kuils River.
- Turn left onto Vlaeberg Road at these traffic lights and follow the bridge over the railway line through a wide right bend.
- Watch out for the Sustainability Institute sign shortly thereafter warning you to turn ahead.
- At the T-junction almost immediately thereafter, turn right at the Lynedoch sign and follow the tarred service road for 1.8km (with the railway line on your right) until you reach the Sustainability Institute on your left.

Approaching the Sustainability Institute from Stellenbosch:

- Take the R310 Adam Tas Road out of Stellenbosch.
- 2.9 kilometres after passing Distell and the Oude Libertas Amphitheatre take a left at the next set of traffic lights onto Baden Powell Drive.
- Follow Baden Powell Drive for 2.2 kilometres and watch out for the Vlottenburg Sign.
- Turn right into Vlottenburg Road and watch out for the Sustainability Institute sign.
- At the T-junction almost immediately thereafter, turn left at the Lynedoch sign and follow the tarred service road for 6.5km (with the railway line on your left) until you reach Lynedoch station on your left and the entrance to the Sustainability Institute thereafter on your right.

Approaching the Sustainability Institute from the R44/Annandale Road:

- Follow the Annandale Road from the R44 in the direction of Lynedoch.
- The Annandale Road will take you to the Baden Powell Drive (R310) intersection.
- Turn left into Baden Powell Drive and follow this road for 1.8km to the first set of traffic lights.
- The sign at this intersection will say Vlaeberg Road (M12) Kuils River.
- Turn right into Vlaeberg Road at these traffic lights and follow the bridge over the railway line through a wide right bend.
- Watch out for the Sustainability Institute sign shortly thereafter warning you to turn ahead.
- At the T-junction almost immediately thereafter, turn right at the Lynedoch sign and follow the tarred service road for 1.8km (with the railway line on your right) until you reach the Sustainability Institute on your left.

Approaching the Sustainability Institute from Kuils River:

- Take the Stellenbosch Arterial (M12) from the Van Riebeeck Road intersection in Kuils River.
- Follow the Stellenbosch Arterial for 7km past the Saxenburg Wine Farm until you reach the Vlaeberg Road T-junction on your right as you are descending into the Stellenbosch valley.
- Turn right onto Vlaeberg Road and continue past Onze Rust for 3.5km looking out for the Sustainability Institute sign on your left.
- At the T-junction almost immediately thereafter, turn left at the Lynedoch sign and follow the tarred service road for 1.8km (with the railway line on your right) until you reach the Sustainability Institute on your left.

OVERVIEW: MASTER'S PROGRAMME IN SUSTAINABLE DEVELOPMENT

AIMS

This structured transdisciplinary programme has been jointly designed and developed by the School of Public Leadership *(www.schoolofpublicleadership.co.za)* in collaboration with the Sustainability Institute *(www.sustainabilityinstitute.net)*, the Centre for Renewable and Sustainable Energy Studies *(www.crses.sun.ac.za)* and the Stellenbosch Centre for Complex Systems in Transition (CST) *(www.sun.ac.za/cst)*.

The main aim of this programme is to provide participants with an understanding and practical experience of the wide ranging contextual, conceptual and thematic issues involved in the theory and practice of sustainable development throughout the world. As the various global social and environmental crises deepen, a new generation is rising up into leadership positions in the public, private and non-profit sectors that are required to possess a broad transdisciplinary understanding of the various dimensions of these crises and related solutions. This integrated Master's Programme (which comprises two connected formal degrees at the Honours and Master's level) aims to equip these people with the knowledge, experience and skills they will need if they are to grow and develop within this new field of career development. This will be done by combining the following:

- a Postgraduate Diploma in Sustainable Development (PGDip) comprising a set of 8 core modules that will be taught from an international perspective by leading experts in their fields, followed by
- an MPhil in Sustainable Development comprising an integrated Thesis (with optional variations) plus two or four electives;
- a teaching methodology that combines formal teaching, case methods, facilitated discussion learning, and self-managed learning in a way that allows each participant to shape their own study focus;
- a residential living and learning context that is rooted in a functioning sustainably built and operated community that provides participants with opportunities for direct experiences of sustainable development work in the farming, construction, landscape, infrastructure and educational fields that will complement their respective learning programmes.

COMPOSITION OF PROGRAMME

Postgraduate Diploma (Sustainable Development) (one year full-time* or two years part-time**)

A 120 credit Honours-level qualification (NQF level 8) comprising a compulsory Orientation and eight modules that will be selected from the modules that are available. PGDip graduates will have an automatic right to apply for registration for the MPhil if they obtain an average of at least 65% for each of the 8 modules.

- *Full-time: This means a student has to complete all 8 modules within 1 year.
- **Part-time: This means that a student may complete 8 modules over two-years (e.g. 4 modules in the first year of registration and 4 modules in the second year of registration).
- NB: Full-time and part-time students must attend the full week (Monday–Saturday) of classes at the Sustainability Institute in Lynedoch, for each of the modules they choose. Anyone who misses a half day or more for any reason will be asked to leave the course.

The PGDip is ideal for students who are only interested in the modules and have no interest in research. Students who complete the modules but want to complete the research component a few years later can exit with an Honours-level qualification (i.e. PGDip) and then register for the MPhil whenever it suits them.

MPhil (Sustainable Development) (one year full-time or two years part-time)

A 180 credit Master's level qualification (NQF level 9) which comprises the following:

- A research component (an academic thesis or various options including a Project Proposal or Academic Journal articles – more details below);
- Research Methodology Course (5 days) (which takes place towards the end of the previous year) plus participation throughout the year in web-based training exercises.
- Two or four electives. Students who receive/d a bursary from the Centre for Renewable & Sustainable Energy may be required to choose energy related electives.

The MPhil (Sustainable Development) programme is defined as a research-based MPhil and is more highly rated in the national higher education system than a two year course work MPhil. Students thus graduate with a highly rated research-based Master's degree from the University of Stellenbosch which is one of South Africa's leading research Universities.

IMPORTANT

All students (no matter what prior qualifications they may have at any level or with any other institution) are required to complete the PGDip (Sustainable Development) before starting the MPhil (Sustainable Development). Under no circumstances will any student be allowed direct entry into the MPhil (Sustainable Development) without having completed the PGDip (Sustainable Development); and no other degree will be recognised as an entry requirement to the MPhil. The reason for this seemingly harsh policy is because the course work curriculum of the PGDip equips students with a strong academic foundation of knowledge and skills to tackle the thesis-based MPhil with confidence and with the best chance of success.

DISTANCE EDUCATION

- The PGDip (Sustainable Development) is not offered as distance learning. Students must attend block sessions for each of the modules for which they are registered (see below) on Stellenbosch University's Lynedoch Campus, which is situated at Lynedoch, 12 km outside Stellenbosch, on the premises of the Sustainability Institute.
- The MPhil (Sustainable Development) has two events which are compulsory to attend, i.e. (i) Research Workshop prior to registration (in November of the year prior to registration); and (ii) MPhil Colloquium at the end of their studies (in November prior to graduation). For the remainder of the time students are not required to be on the Lynedoch campus unless they are registered for a module. They will each have a supervisor and it is up to each student to ensure they get the supervision they require.

TEACHING METHODOLOGY

Approach and Methods of Tuition

All classes are presented at the Sustainability Institute, Lynedoch. Students attend during the time period allocated for each of their registered modules (refer to dates list) and are not required to be on campus during the time between their modules.

During formal block sessions, an interactive teaching method will be used that will consist of formal lecturing, facilitated discussion learning, case method learning (in small group discussion and in plenary) and various kinds of structured group work. The main aim of this teaching approach is to ensure that members of the group learn from each other and establish strong working relationships. The facilitated discussion learning and case learning is designed to ensure that participants complement reading and listening with experiential learning that builds the capacity for sound judgement and practical wisdom. In addition, course participants will be required to undertake certain daily practical tasks related to the general upkeep of the Institute and the development of the surrounding projects. These shared experiences of practical work will feed directly into the overall learning experience during the block sessions.

The normal teaching day (Tuesdays to Fridays) will start at 08:15 with an hour of community work, followed by a formal teaching session until lunch time. Mondays will start at 08:30. Between 14:00 and 16:00, group work takes place, normally in preparation for group presentations on Saturday morning. There is normally a late afternoon session from 16:00 to 17:15. Overnight reading preparation is expected. All these components of the day, including the community work session, are accredited elements of the course and therefore attendance is mandatory.

Between block sessions, course participants who return to their places of work will need to work largely on their own and connected to others via email and SUNLearn, our web-based learning portal, where this is practically possible. However, others may choose to stay on at the Institute where they may work in groups or work with Institute staff on various projects. In both cases, however, it should be assumed that approximately 100 hours of self-managed work time will be needed between blocks for reading and writing up of assignments.

LANGUAGE OF INSTRUCTION

The language of instruction during tuition, discussions and presentations will be English.

EXAMINATION REQUIREMENTS AND EVALUATION

This structured study programme consists of separate modules. Written theoretical, practical and oral examinations may be required in the respective modules. The final mark for each module will be based on an assessment of classroom performance and written work.

DATES AND DEADLINES

PGDip (Sustainable Development) students register either for 8 modules (full-time) or 4 modules (part-time) for any one particular year. It is compulsory for all new students to attend *Orientation* and *Sustainable Development*. Thereafter students are free to return to their place of work; i.e. leave the campus, and to return for the next module for which they are registered. Students choose modules according to their interests and schedules. The dates during which modules will be presented, are listed on the last page of this document.

It is compulsory for MPhil (Sustainable Development) students to attend the Research Workshop in November and to complete an online Research Methodology course, including tests, before embarking on their studies.

Excluding Research Methodology and Research Dissemination, which have a slightly different assessment method, all modules have a deliverable in the form of two individual assignments of approximately 3500-5000 words for each assignment, to be submitted 6 weeks after the last day of class.

POSTGRADUATE DIPLOMA IN SUSTAINABLE DEVELOPMENT (NQF LEVEL 8)

ENTRY REQUIREMENTS

Candidates may apply to enter this taught PGDip Programme if they are in possession of one of the following qualifications:

- Any Bachelor's or BTech degree or a relevant four-year diploma with a 60% pass mark in one of the following major subjects: Town and Regional Planning, Housing, Geography and Environmental Studies, Social Sciences (sociology, politics, etc), Psychology, Economics, Public and Development Management, Geology, Botany, Zoology, Forestry, Ecology/Nature Conservation, Mathematics, Statistics, Agricultural Economics, Transport Economics, Forestry, Civil Engineering, Architecture, Land Surveying or any other degree approved by the Programme Committee. Relevant work experience will be considered for admission.
- Any three year programme of studies with at least five years relevant work experience and conformity with the University's RPL (Recognition of Prior Learning) policy. According to this policy, the equivalent of 120 credits at NQF level 7 (Bachelor's degree) must be acquired in one or more of the following ways, subject to the decision of the Programme Committee, which consists of the Director of the School of Public Leadership, the Programme Coordinator and other relevant persons:
  - Completion with a total 65% mark of at least three modules from the PGDip curriculum
  - Recognition of all the professional short , in-service training courses and completed subjects for another degree or diploma programme
  - Submission of a learning portfolio, with copies of written work
  - Passing of an entrance examination if so required by the Programme Coordinator

If a candidate has obtained a Merit Certificate for one or more individual modules that were completed for non-degree purposes, the candidate may apply for the certificate(s) to be converted into credits towards the degree. The Programme Coordinator has sole discretion over whether or not to grant this request. S/he will take into account the performance of the candidate and the time that may have lapsed between the completion of the Certificate and the application to register for the degree.

APPLICATION

- Closing date for PGDip application: 31 August of the year prior to the year during which the programme commences. (Please note that all the supporting documents of your application must have reached Stellenbosch University by this date; i.e. you need to do the actual online application at least two weeks prior to 31 August.)
- A detailed explanation of the application procedure can be found elsewhere in this Prospectus.
- Any other entry requirements for postgraduate study prescribed by the University of Stellenbosch in its various public documents will apply.

SELECTION

- Selection will take place in October/November after which successful candidates will be informed. Selected PGDip students will be eligible to pay a non-refundable deposit fee of R2000 by 18 November of the year prior to the year in which they are taking up studies to confirm and secure their position on the programme. This amount will be deducted from the registration fee payable in January of the year in which you are taking up studies. Failure to adhere to this will forfeit your position on this programme. If you do not arrive at registration for whatever reason or if you decide not to participate in the programme for whatever reason, this deposit fee will also be forfeited.
- The **criteria for selection** include academic excellence, work experience, an appropriate mix of disciplines, career commitment in the broad field of sustainable development and a well-written motivation.

STRUCTURE

The PGDip (Sustainable Development programme) has a foundation module (Sustainable Development I) that all new students must complete, whereafter they choose any 7 modules from the module offering.

The programme is presented formally during the scheduled contact sessions, with assignments completed during the interim periods between blocks. The Orientation, which commences with registration, is compulsory for all new PGDip students. Students who do not participate in all three days of the Orientation will not be permitted to register for any module.

Each module will as far as possible be delivered at fixed times (refer to dates list at back of prospectus). This means that a course participant can mix and match his/her participation to suit his/her interests and practical circumstances. For example, it will be possible for someone to complete the entire course work programme for the PGDip in one year (full-time) by attending eight core modules and completing the assignments **or** over 2 years (part-time) by attending 4 core modules per year and completing the assignments (or, for that matter, 5 modules one year and 3 modules the other year). **Completing the PGDip over three years will only be permitted under exceptional circumstances.**

As far as sequencing is concerned, the only course requirement is that all participants must do the Foundation Module (Sustainable Development I) before they enrol for any other module. This will allow for the maximum possible flexibility for course participants.

For the programme to be financially viable, a minimum number of 15 participants is required for each module. The preferred class size is 30 participants, but this may expand to as much as 55 for certain modules.

Each module requires at least 150 hours of your time i.e. 50 hours class/contact time, 50 hours reading time, and 50 hours spent writing up the assignments.

MODULE COMPLETION

All candidates must attend and complete the Foundation Module, *Sustainable Development* I whereafter they can structure the sequencing of their module selections to suit their own practical circumstances and intellectual preferences. Students will be required at the start of the programme to commit to participating in certain modules at certain times. If a student changes his/her plans by deciding to register for a module that s/he did not sign up for at the start, and if the module s/he has applied for is full, then s/he will be put onto a waiting list. Non-attendance of modules for which students have registered will result in failure of a module. A student will then have to re-register and pay for the module in the subsequent year.

Candidates who fall into arrears with their payments for modules will not be allowed to register the following year nor will they receive their graduation certificate; and their final marks will be withheld until payment has been received.

CURRICULUM

The PGDip (Sustainable Development) curriculum comprises eight (8) Core Modules each worth fifteen (15) credits. The eight Core Modules must be selected as follows:

The Foundation Module, *Sustainable Development I*, **and Orientation are compulsory and must be attended before participation in any of the other modules will be authorised.**

FEE STRUCTURE

Deposit

Students who have been accepted on the programme pay a non-refundable deposit of R2000 by 18 November. This amount will be deducted from registration fees.

Registration fee

The estimated registration fee for 2018 will be R9000. Deducting the R2000 deposit, this means that R7000 is payable by 25 January 2018. This is the first instalment on tuition fees.

Course fees (all prescribed learning material is included in this fee)

R5610 per module (School of Public Leadership) (fees for modules offered by the Dept. of Engineering may be higher/lower than those offered by the School of Public Leadership)

- Full-time study (all eight modules in 2018): R5610 x 8 = R44880
- Part-time study (four modules per year over two years):
  2018: R5610 x 4 = R22440
  2019: R6000 x 4 = R24000
- *These course fees are provisional amounts for budgeting purposes only and not binding on Stellenbosch University or any of its employees/representatives. Accommodation and meals are not included in the course fees.*

International fees

All *international students* pay *additional* fees.

- Please refer to *https://www0.sun.ac.za/international/prospective-students/full-degree-postgraduate/i-want-to-enrol-at-su/fees.html* for more information.

Fees payable by registration date:

- South African students are required to pay the registration fee (first instalment on class fees) by 25 January 2018. The deposit amount (R2000) will be deducted from the registration fee.
- International students are required to pay all academic fees, international registration fees and service fees upfront before registration. The deposit amount (R2000) will be deducted from these fees.

Students will be charged for (i) modules that they repeat; (ii) additional modules over and above the 8 core modules; and (iii) any additional fees that their electives may entail.

The University, as represented by the duly authorised decision-making body, reserves the right to amend all fees payable to the University. As a result, the above quoted fees may change by the time that registration takes place in January 2018. The School of Public Leadership and the staff associated with the management of this programme cannot be held accountable if for any reason the above quoted fees are changed by a duly authorised University decision-making body.

MPHIL IN SUSTAINABLE DEVELOPMENT (NQF LEVEL 9)

ENTRY REQUIREMENTS

Application and selection

Candidates may submit a written application to enter this Programme if they comply with the following:

- A PGDip in Sustainable Development qualification or have passed 8 core modules from the above mentioned PGDip programme, but have not yet graduated.
- Preference will be given to applicants who have obtained an average of 65% or higher for each of the 8 modules of the PGDip; **AND**
- A completed Research Concept Note and attendance of the compulsory Research Workshop and participate in web-based training exercises in research methodology.
- Closing date for MPhil application: 30 September of the year prior to the year during which the programme commences.
- A detailed explanation of the application procedure can be found elsewhere in this document.
- Any other entry requirements for postgraduate study prescribed by the University of Stellenbosch in its various public documents will apply.

STRUCTURE & CURRICULUM

After completing the eight Core Modules and graduating with a PGDip (Sustainable Development) qualification, the student must apply to register for the MPhil (Sustainable Development), and also submit a research concept note and participate in web-based training exercises on Research Methodology. Registration will only be possible after attending the Research Workshop in November and if an adequate Research Proposal has been completed and accepted. The Research Proposal must comply with the prescribed format and must also define which one of the thesis options (150 credits or 120 credits) will be selected.

A student may select a module presented by any university or tertiary learning institution, including modules offered by the School of Public Leadership, as part of the MPhil in Environmental Management, or the Honours and Master's programmes in Public and Development Management (such as Project Management or GIS), on condition that the elective entails five or six teaching days, entails written work, and is equivalent to approximately 15 credits. If this module meets with the approval of the Programme Director, the student may enrol as long as the conditions pertaining to admission to the programme have been met. If this enrolment entails the payment of additional fees, this will be the responsibility of the student. The criteria used to approve an elective will be whether the elective is broadly consistent with the overall goal of building an understanding of sustainable development, also taking into account the requirements that the same modules cannot be offered for two degrees. A student who selects electives offered by the School of Public Leadership that do not appear on the list of modules below or from other departments at Stellenbosch University that do not appear on the list below or at any other university or institution, will be registered for the module Capita Selecta: Advanced Studies in Sustainable Development.

Note: the page numbers below are based on a letter size of 12 and line spacing of 1½ (with about 375 words per page). Double line spacing (about 250 words per page) will lead to a longer thesis.

Option 1

Research component plus Two Electives Programme: a 150 credit research component (see options below) plus two electives worth 15 credits each selected as described above. The Programme will consist of the following

- Research Methodology Course, plus
- Two Electives: 15 Credits each plus
- Research Component: 150 Credits with the following options:

i. Two academic journal articles in the format and style of the School of Public Leadership template and in accordance with the requirements of the University, the School and the supervisor (±8000 words [±24 pages] per journal article).

OR

ii. A project proposal for a given development project that must define the goal, objectives, implementation plan, budget, and monitoring and evaluation mechanism in accordance with the Logical Framework Analysis project management approach (±40 000 words [±120 pages]).

OR

iii. A traditional thesis in accordance with the normal academic format and requirements of the University, the School and the supervisor (±40 000 words [±120 pages]).

NOTE: Appendices are not included in word count.

Option 2

Research component plus Four Electives Programme: a 120 credit research component (see options below) plus four electives worth 15 credits each selected as described above. The Programme will consist of the following:

- Research Methodology Course, plus
- Four Electives: 15 Credits each plus
- Research Component: 120 Credits with the following options:

i. Two academic journal articles in the format and style as prescribed by the School of Public Leadership template and in accordance with the requirements of the University, the School and the supervisor (±8000 words [±24 pages]).

OR

ii. A Project Proposal for a given development project that must define the goal, objectives, implementation plan, budget, and monitoring and evaluation mechanism in accordance with the Local Framework Analysis project management approach (±30000 words [±90 pages]).

OR

iii. A traditional thesis in accordance with the normal academic format and requirements of the University, the School and the supervisor (±30 000 words [±90 pages]).

NOTE: Appendices are not included in word count.

Scheduling: Candidates must submit a research proposal, written in accordance with the Departmental Guidelines for Research Proposals and acceptable to the Programme Coordinator and the Research Committee, by mid-January; for registration by 31 March.

Supervision: The Research Committee will assign a Supervisor for each candidate in accordance with available expertise and equitable distribution of the supervision load, plus two Examiners.

FEE STRUCTURE

Registration fee

The registration fee for 2018 will be R9000.

Course fees

- Option 1: 150 credit thesis R21300 + 2 modules @ R5610/module = R32520
- Option 2: 120 credit thesis R17040 + 4 modules @ R5610/module = R39480

Note: 33% of thesis fees will be charged for the second year of study; and full thesis fees will be charged for every year of study after the second year. However, continuation after two years is not a given fact but is a privilege that is only granted under exceptional circumstances.

Editing fees

MPhil students must also take into account that their thesis document must be edited before final submission. Depending on the type of editing needed, fees vary from R2000 (form edit) to ± R12000 (content edit). Editing fees are not included in the course fees.

These course fees are provisional amounts for budgeting purposes only and not binding on Stellenbosch University or any of its employees/representatives. Accommodation and meals are not included in the course fees.

International fees

All *international students* pay *additional* fees.

Please refer to *https://www0.sun.ac.za/international/prospective-students/full-degree-postgraduate/i-want-to-enrol-at-su/fees.html* for more information.

Fees payable by registration date:

- South African students are required to pay the registration fee (first instalment on tuition fees) before registration. This date differs for new and second year students.
- International students are required to pay all academic fees, international registration fees and service fees upfront before registration.

The University, as represented by the duly authorised decision-making body, reserves the right to amend all fees payable to the University. As a result, the above quoted fees may change by the time that registration takes place in January 2018. The School of Public Leadership and the staff associated with the management of this programme cannot be held accountable if for any reason the above quoted fees are changed by a duly authorised University decision-making body.

GENERAL INFORMATION

PAYMENT OPTIONS

Refer to the information at the following link:
http://www.sun.ac.za/english/maties/fees/payment-options

BURSARIES AND SCHOLARSHIPS

Information on financial aid can be found at the following links:

- *www.sun.ac.za/calendar*
- *http://www0.sun.ac.za/pgstudies/scholarships-and-opportunities.html;*
- *http://bursaries-southafrica.co.za/*

INTERNATIONAL STUDENTS

Information on visas, fees, language requirements and long term accommodation can be found on the website of the Postgraduate & International Office:
https://www0.sun.ac.za/international/

ACCOMMODATION OPTIONS

Accommodation depends on individual circumstances and personal choice:

- long term University accommodation in Stellenbosch;
- long term private rented accommodation in Stellenbosch or surrounds (room/flat/house):
  https://www0.sun.ac.za/international/about/accommodation-in-stellenbosch.html
- short term – guesthouses near the SI:
  Drie Gewels Eco-Lodge in the Lynedoch EcoVillage: tel. +27 21 8813196 ext 219;
  hospitality.si@sustainabilityinstitute.net;.
  Onze Rust Guesthouse; *www.stellenboschstay.com*
  Soverby Guesthouse; www.soverby.co.za
- guesthouses in Stellenbosch - *http://www.stellenbosch.travel/stay*
- Students are responsible for their own accommodation arrangements.

COMMUTING OPTIONS

All modules are delivered on the premises of the Sustainability Institute. These premises are located within the emerging Lynedoch EcoVillage Development which is located on the R310 diagonally opposite the Spier Wine Estate, 12 km outside Stellenbosch. Students are responsible for their own transport arrangements. Most students, if they aren't staying in the Drie Gewels Eco-Lodge on site, travel by car and often arrange lift shares amongst themselves. The only public transport available is a train service and the journey between Stellenbosch and Lynedoch takes 9 minutes. The Lynedoch train station is 3 minutes' walk from the SI.

APPLICATION PROCEDURE

CLOSING DATES FOR APPLICATIONS:

31 AUGUST (Postgraduate Diploma in Sustainable Development)

30 SEPTEMBER (MPhil in Sustainable Development)

The University must be in possession of ALL your supporting documents by these dates

Please familiarise yourself with the entry requirements before applying for either of the two programmes.

PGDip in Sustainable Development

CLOSING DATE FOR APPLICATIONS:

31 AUGUST OF THE YEAR PRIOR TO THE YEAR FOR WHICH YOU ARE APPLYING

The application process for the PGDip (Sustainable Development) programme is two-fold, namely:

- firstly, by applying to Stellenbosch University; and
- secondly, if accepted by the University, by applying to the Department, namely the School of Public Leadership.

The complete process is described below.

1. Stellenbosch University Application

1.1 External applicants (not enrolled at SU at the time of application)

Step 1

Information you will need for your application:

- Faculty: Economic and Management Sciences
- Department: School of Public Leadership
- Programme: Postgraduate Diploma in Sustainable Development

From 1 May in the year preceding the year that you wish to study, apply online at:
www.maties.com

If it is impossible to apply online, an application form may be requested from the University Client Services Division (info@sun.ac.za).

All external applicants receive a student number via email or sms (text message). This is not an indication that you have been accepted by the University.

If you have applied online, you need to mail proof of payment of admission fees (not applicable to international students), certificates and a signed agreement to the University at info@sun.ac.za; or you will be requested to upload these documents to the system. Your application will not be processed further unless the University receives all the documents described above.

If you submit a paper application form please include all documents described above and post them to the address on the application form; or scan and email them to info@sun.ac.za. Please ensure that the scanned copies are clear and easy to read. The application forms do not fax well and you are advised not to fax your applications.

All the documents mentioned above need to be submitted to the University by 31 August, in other words the University must be in possession of your complete application by 31 August, otherwise your application may miss the selection process.

It is your responsibility to follow up with the University Call Centre to confirm that your application is on the system and that all supporting documents have been received. Once your application has been successfully processed by University Admissions you will receive an email or sms (text message) with your University password. Please note that this is not an indication that you have been accepted for the PGDip in Sustainable Development.

1.2 Internal applicants (enrolled at SU at the time of application)

Apply 1 July via *My.Sun.ac.za:* Studies - Application postgrad studies.

Step 2
Applications of external applicants are reviewed by the Faculty Secretary (and International Office if you are an international student) to ensure that you comply with the entry requirements for the PGDip (Sustainable Development) programme.

Step 3
The names of applicants accepted by Faculty are sent to the Department.

2. Departmental Application

Step 4

The Programme Administrator will email a departmental application form to you if you have been provisionally accepted by Faculty. There may be a substantial time lapse between your University application submission and contact by the Programme Administrator – most often this is due to university applications being incomplete, but also because the Faculty review process may not commence until June/July. It is the applicant's responsibility to follow up on applications submitted. The completed departmental application form plus a motivation (1000 words) of why you wish to study the PGDip in Sustainable Development must be emailed back to the Programme Administrator within 10 days of receiving the email and departmental application form.

Step 5

Your departmental application will be reviewed and you will be notified whether your application was successful or not by the end of the second week in November. If your application has been successful, you will be required to pay a non-refundable deposit of R2000 by 18 November to secure your place on the programme.

MPhil in Sustainable Development

CLOSING DATE FOR APPLICATIONS:

30 SEPTEMBER OF THE YEAR PRIOR TO THE YEAR FOR WHICH YOU ARE APPLYING

Preference will be given to students who obtained 65% or higher for each of their respective modules in the BPhil/PGDip programme. Students who are conditionally accepted for MPhil studies are required to attend:

- a Compulsory Research Workshop from 5-9 November 2018.

The application process is twofold, namely:

1. **Research concept note**

All applicants must submit an electronic copy of a research concept note to the Programme Administrator by 30 September of the year prior to the year for which you are applying. The concept note template is available from the Programme Administrator.

2. Stellenbosch University Application

2.1 External applicants (not enrolled at SU at the time of application)

Complete an online application at: *www.maties.com*. Applications open on 1 May. Information you will need for your application:

- Faculty: Economic and Management Sciences
- Department: School of Public Leadership
- Programme: MPhil in Sustainable Development

See Steps 1-3 above.

2.2 Internal applicants (enrolled at SU at the time of application)

Apply via *My.Sun.ac.za*: Studies - Application postgraduate studies

CONTACT THE CORRECT DIVISION FOR ENQUIRIES RELATING TO YOUR APPLICATION

Enquiries relating to your online university application: University Call Centre, tel. +27 21 808 9111; *info@sun.ac.za.*

Enquiries relating to your PGDip *departmental application* or MPhil *research concept note*: Beatrix Steenkamp (Programme Administrator), tel. +27 21 881 3952; email *bsteenkamp@sun.ac.za.*

Enquiries relating to *funding, visas, language proficiency, etc.*: Postgraduate & International Office, tel. +27 21 808 2565; *http://www0.sun.ac.za/pgstudies/*; email *interoff@sun.ac.za*.

USEFUL CONTACT INFORMATION

Programme Administrator Beatrix Steenkamp; *bsteenkamp@sun.ac.za*	+27 (0)21 881 3952
Stellenbosch University Call Centre	+27 (0)21 808 9111
Accommodation: University (long-term) *https://www0.sun.ac.za/international/about/accommodation-in-stellenbosch.html*	+27 (0)21 808 3892
Accommodation: Sustainability Institute (short-term) *hospitality.si@sustainabilityinstitute.net*	+27 (0)21 881 3196
Bursaries: Postgraduate *http://www0.sun.ac.za/pgstudies/scholarships-and-opportunities.html* *beursnavrae_nagraads@sun.ac.za*	+27 (0)21 808 4208
Bursaries & Loans: General	+27 (0)21 808 4627
Bursaries: Centre for Renewable Energy Studies (***Renewable & Sustainable Energy Students only***) *http://www.crses.sun.ac.za/studies-bursaries*	+27 (0)21 808 4069
Division Student Fees	+27 (0)21 808 4913/ /4519/4521
Division Student Records	+27 (0)21 808 4575
Faculty Secretary: Ms Nazli Daniels, *ndaniels@sun.ac.za*	+27 (0)21 808 4837
Postgraduate & International Office *http://www0.sun.ac.za/pgstudies/; interoff@sun.ac.za*	+27 (0)21 808 2565

APPENDIX A

MODULE OFFERING*

**PGDip/Honours level indicated by module code starting with 7; Master's level indicated by module code starting with 8*

Applied Economics 775

The arrival of structural adjustment – deindustrialisation and falling real wages – in the core economies of the world; the dethroning of Western economic hegemony by the Dragon and Elephant; the meteoric rise and dominance of sovereign investment funds; the quiet and loud insurrections in North Africa, the Middle East, Latin America and the epicentres of high finance; the consolidation and export of Latin American neo-structuralism; the cementing of trans-continental alliances and their increasing assertiveness in global governance (BRIC+SA); and the maturation of African cubs into formidable Lions – amongst others - collectively and separately compel us to rethink our world and our future. As intellectuals, academics, bureaucrats, politicians and activists, we are compelled to undertake this rethink at ontological, epistemological and axiological levels not unrelated to the swinging of the praxis pendulum from economic orthodoxy to heterodoxy; from the global disillusionment with and retreat from planning, to its reinvention in solidifying political economy frames; from the 'end of history' to the 'end of the end of history'; and from 'another world is possible' to 'another world is necessary and on its way'. While the above present resources of hope that afford us tremendous opportunities to step out of the shadow into the light, we should also in the reclamation both of 'stolen pasts' and seemingly 'foreclosed futures' always 'walk questioningly' and 'make the road while walking'.

The aim of this course is to provide course participants with an understanding of South Africa's political economy. This will entail an understanding of four dimensions of this endeavour: (a) the way South African economic history has been understood from a political economy perspective; (b) the dynamics of post-1994 economic policy making and why the challenge of radical economic restructuring has not been adequately addressed; (c) the challenge of state capture from the perspective of the literature on neo-patrimonialism; and (d) potential alternatives, including industrial policy, radical green economy developments, 'radical economic transformation' and Fanonist perspectives on resistance and change. It will be necessary to commence the course with a brief introduction to the main economic perspectives and how these have influenced both academic analysis and economic policy. These perspectives are the neo-liberal, heterodox, Marxist perspectives and ecological economics perspectives. However, the bulk of the reading material with be drawn from the heterodox tradition, with examples from the other traditions. Furthermore, this introductory session will include an introduction to the key economic concepts that are used in the literature. By the time all the course requirements have been met (including delivery of the individual assignments), course participants will:

- understand the way different economic paradigms have shaped the way South Africa's economy is understood, including economic policy making;
- be able to apply the concepts they have learnt to analyse the economic challenges South Africa faces, in particular the need for inclusive structural transformation;
- be able to engage in the debates about economic policy alternatives to the current focus on capital intensive infrastructure investments via State Owned Enterprises.

Biodiversity and Ecosystem Services 772

In the face of global change and natural resource depletion, it has become an imperative to understand the links between biodiversity and ecosystem services such as freshwater, crop production, grazing and climate regulation, which underpin the economy and well-being of different groups in society. However, biodiversity, ecosystem services and human well-being are all multidimensional issues characterized by complex interactions. In this module, a variety of biodiversity and ecosystem service frameworks will be introduced and discussed in light of how they help us understand our connection with and dependence on nature. Empirical work from southern Africa will be showcased to illustrate how biodiversity, ecosystem services and human well-being can be mapped and analysed, and how these analyses can feed into governance and decision-making processes at the local, national and international level. This will include a discussion of specific threats to biodiversity and ecosystem services, such as land cover change, fragmentation and invasive alien species. Furthermore, we explore trade-offs in ecosystem services and factors that influence investments in ecosystem restoration, as well as the potential for green infrastructure to act as an alternative to physical man-made infrastructure. The module will also discuss possible tipping points that could trigger large, abrupt, nonlinear changes in ecosystems and society which might threaten critical ecosystem services that support human well-being, especially amongst vulnerable groups in society. In summary, during this module students will learn about the vital ecosystem services that underpin human societies and how these services can be managed or restored to build resilience and improve human well-being outcomes within complex, interconnected social-ecological systems.

Bio-energy 744/874 (Engineering module)

The course will consider the practical and commercial application of the various technologies for biomass conversion into bio-energy. The production of first and second generation bio-fuels as well as other forms of renewable energy, such as electricity, will be covered, with an emphasis on the critical issues of thermal efficiency, sustainability and commercial feasibility.

A student who has successfully completed this module can:

- develop and evaluate project proposals in bio-energy production by taking into consideration technical issues, economic feasibility and sustainability;
- have a conceptual understanding of the conversion technologies for bio-energy and biofuels production, including biodiesel, biogas, ethanol, combustion, pyrolysis, gasification and electricity generation;
- perform a critical analysis of the sustainability of bio-energy production, with an emphasis on finding practical, innovative, sustainable solutions;
- perform a critical analysis of the sustainability of bio-energy production, with an emphasis on finding practical, innovative, sustainable solutions.

The selection of the most appropriate technology from the demand side perspective will be a central thread through the course.

Capita Selecta: Advanced Studies in Sustainable Development 871*
Capita Selecta: Transdisciplinary Research in Sustainability Transitions 871

**A 'basket' module for a mark scored in an elective outside our module offering*
**This module carries full module fees as set out elsewhere in this document; as well as course fees at the institution offering the elective*

At the MPhil level students are encouraged to specialise by making sure their literature review and empirical research has a specific focus. To support this effort, they are encouraged to register for this module which provides a framework for structured course work in a specialist area. It will be the responsibility of the student's supervisor to make sure than an appropriate mix of course work and written outputs are compiled that support the overall focus of the thesis work. It follows, therefore, that this module may vary for each student. However, in all cases the core content will comprise a combination of the following learning activities:

- Course work that relates directly to the research focus of the thesis – typically this could include participation in course work offered within the School of Public Leadership or other departments at Stellenbosch University, courses offered by other Universities, Winter/Summer Schools, etc. with an assignment based on this course work;
- Related field research and/or applied research (e.g. modelling work or ethnographic research) – here the student will be required to complete an assignment that relates the course work to a relevant practical problem that tests and deepens the student's grasp of the concepts covered in the course work;
- Translation of the course work and field research into an appropriate section in the thesis that needs to be compiled for the degree as a whole.

Capita Selecta: Comparative Studies in Sustainable & Regenerative Social-Ecological Systems 771

This module is field-based and designed to expose students to two real-world rural development systems, one in India and the other in Ethiopia (to be confirmed). Students registered for the module must choose one of the two locations.

1: India

Due to the nature of this course the total number of participants is limited to 15 per year. In addition to standard course fees, this course carries an additional cost of ±R12000 (TBC), which covers all living costs while in India. Flights to India any other expenses relating to getting to and from the course location are not included.

Based at a rural development organisation in Wardha, Maharashtra State, central India, this course is composed of 2 weeks of applied learning, site visits and lectures in food system sustainability and knowledge cogeneration. Focusing on an exploration of the links between soil, agricultural practices, poverty, economics and well-being, the lectures will be globally relevant, while the field trips will be used to provide gritty, practical insights and experiences at a grassroots level. Participants will be encouraged to share and compare experiences from their own countries to deepen all participants' understanding of the issues as the manifest across a range of contexts. India is a rapidly developing global economic powerhouse and the stories playing out on the ground in India will have profound impacts on the rest of the world for centuries to come. Participants will develop a feel for life at the coalface of this transition in a small town in northern Maharashtra State where the ruptures and tensions of this transition are present in every facet of

life. Participants will also explore some of the innovative research methodologies grappling explicitly with the practicalities of knowledge-cogeneration in the food system. An important focus is the lessons Africa can draw from India's agrarian revolutions and food market structures. This will entail being based on Dharamitra's research farm, undertaking a range of site visits, contact with local practitioners and scope for engagement with local researchers. High external input, globalised food value chains will be compared with localised low-external-input systems in order to better understand the strengths and weaknesses of each. This comparison will include site visits which track the 'farm to fork' journey of a number of key crops which are produced under different management paradigms and distributed through a range of different markets. A range of sustainability interventions and perspectives are presented at various points within the food system, which students are encouraged to critically evaluate and contrast to their own contexts. In order to allow space for students' own context and complex stories to inform the lessons they take away from this course, heavy emphasis is placed on allowing students to co-create the lines of inquiry over the course of the course. Course participants will be able to describe, analyse and critically evaluate the different options for promoting regenerative food systems. These options contribute to the broader sustainability objectives of restoring degraded ecosystems while improving social cohesion, wellbeing and justice. In addition students will leave with a suite of practical technologies and interventions for enabling the regeneration of food systems in their home contexts.

2. Ethiopia (to be confirmed)

Details to be confirmed.

Complexity Theory and Systems Thinking 772

This is a theoretical and conceptual course that addresses the notion of complexity which, in turn, has become a vast and intricate literature that spans the globe, cuts across all disciplines and means many different things to different people. The orientation of this course is to locate complexity within a philosophical and 'history of science' context, and to distinguish complexity from more modernist interpretations such as chaos theory and most systems theories. Importantly, this course provides the primary conceptual framework that students will require to fully understand sustainability in general and sustainable development in particular. Increasingly across the globe sustainability is being understood via complexity perspectives that seem most capable of handling the transdisciplinary nature of sustainability. The course will try to demonstrate some of these links. Although a week is much too short to do justice to the subject of complexity and systems thinking, this basic introductory course is designed to provide course participants with the key conceptual tools that will be required to fully integrate all the different dimensions of sustainability that are addressed in the other modules.

Corporate Governance and Sustainable Enterprise 774

This module investigates business responses to the challenges and opportunities presented by sustainability and the manifestations of social (sustainable) enterprise, with special emphasis on developing country contexts, particularly South Africa. An overarching question is what role, if any, can enterprise play in the transition toward a 'new economy'. Is social enterprise a legitimate 'new economy' trend that imbues a genuine shift in attitudes and behaviour, or is it a veil for business as usual? Central themes will include:

- Defining corporate citizenship and social (sustainable) enterprise;
- Drivers for corporate citizenship and the business response;
- Ad hoc through to strategic organizational level responses;
- Social entrepreneurship, and the role of social enterprise in society and business;
- Partnerships and critical collaboration;
- 'New Economy' trends through a social innovation lens;
- Leadership characteristics necessary to lead change.

Development Planning and Environmental Analysis 771*

** This module is presented on main campus and not at the Sustainability Institute*

The aim of the module is to provide participants with an overview of basic concepts and insights into various types of analyses undertaken by planners and environmental managers, and the application of analysis to development planning and environmental management problems generally, with an emphasis on a sustainability perspective. The background reading for this module include readings on Integrated Environmental Management (IEM), screening, scoping, specialist studies as part of Environmental Impact Assessments (EIAs), Impact significance, Environmental Management Plans (EMPs) and Frameworks (EMFs) and Strategic Environmental Assessments (SEAs); as well as readings on poverty assessments; demographics, social and economic analysis, and on sustainability assessments (SAs) and sustainability indicators. The

module will also explore the 'knowledge-policy-action nexus', namely the role that science and other forms of knowledge play in policy-making; in decision-taking and the implementation of plans, policies and projects (contrasted to the role of politics and power).

The following broad themes will be dealt with in the module:

- Introduction to Analysis and relevant concepts and its role in the knowledge-policy-action nexus
- Introduction to rational planning and the Logical Framework Approach (LFA)
- Social, demographic, poverty and economic analyses
- Sustainability Assessments or Appraisals and sustainability indicators
- Integrated Environmental Management (IEM), Strategic Environmental Assessment (SEA), Environmental Management Frameworks (EMFs), Environmental Management Programmes/ Plans (EMPs) & Environmental Impact Assessment (EIA)
- Overview of technical skills, such as the extraction and processing of South African census data, population forecasting and socio-economic analysis, relevant in developing a socio-economic profile of a town or region

Although this is not a statistics module, nor is it a requirement to have knowledge of statistics, in order to attend the module; some basic statistical analyses will be referred to during the module. In order to write research reports and for future work as development planners or environmental managers, it is highly recommended that students are computer literate and proficient in the use of Microsoft Word and Microsoft Excel. In addition, knowledge of statistics and statistical programmes (such as Statistica or SPSS) will also be very useful for future research and report writing endeavours. By the end of this module, participants will have been introduced to and grappled with some complex planning challenges arising from the calls for a more sustainable future. To achieve this general learning outcome, course participants will:

- have a greater understanding of various concepts relevant to development planning and environmental analysis and the role of analysis in knowledge-building, science and research, policy-making and implementation for sustainability (the knowledge – policy- action interface);
- have a greater understanding of the context of science, research and analyses, namely complexity, uncertainty, diversity, and the political nature of knowledge;
- have been introduced to various poverty, social, economic and environmental analyses;
- have some knowledge of the interface between the natural and the human environment (social-ecological systems);
- be able to do certain analyses of the environment, and be aware when to call in specialists for more advanced studies;
- be familiar with methods for determining environmental impacts;
- have been introduced to the field of Monitoring and Evaluation and a variety of sustainability indicators, for example theories about the ecological footprint of a city;
- have been introduced to available census data, and be aware how census data can be extracted with SuperCROSS and how this data can be processed into useful information (socio-economic indicators), using Microsoft Excel and Word;
- know how to interpret and represent the socio- economic characteristics of communities in the form of a town or regional profile.

Food Security and Globalised Agriculture 774

Course participants will be required to describe, analyse and critically evaluate the different options for ensuring food security from a sustainable development perspective, within a globalised food system. This course proceeds from the assumption that the solution to hunger does not lie in producing more food, but in restructuring the global food system. The global food system delivers mostly unhealthy food to those who can afford to buy the food and in the process unsustainably exploits a wide range of ecosystems. Alternatives are emerging that need to inform the way the global food system is restructured and transformed.

Central themes will include:

- Overview of the globalised nature of food systems and implications thereof;
- South African agriculture and food policy within global food systems;
- Food security – global status, varying policy responses and major debates;
- Nutritional security;

- Case studies of food and agriculture policies in Africa and the world.

Although the issues in this course are global, we encourage students to apply their learning to topical issues unfolding in the food system. For example, in 2015, students' group presentation topics involved making submissions to the public participation process of the Competition Commissions' proposed investigation into the role of supermarkets in informal settlements and impact on food security and the informal economy.

Food System Transitions 771

The aim of this course is to equip participants with knowledge of the various responses to unsustainability in the food system and critical thinking skills to contextualize and assess these responses. This will enable participants to engage with and critique food system transitions (including governance, policy and ideological positions) within the context of food security and food system sustainability. After completion of the module the participant will then be able to:

- Identify the intersection between food system transitions and broader global transitions;
- Apply food systems thinking;
- Identify various ideological positions in food debates;
- Analyse food policy and governance practices.

By taking this module, participants will be equipped to interrogate the various 'solutions' that are being offered or tried in practice in the search for sustainable food systems. This course offers an overview of various responses, places them in the context of broader global transitions and provides frameworks to guide analysis.

Globalisation, Governance and Development 771

The focus of this module is on the nature of the global economy, how it is governed and the alternatives articulated by social movements and academic institutions. The globalisation of economic processes provides the context for this discussion, with special reference to nature of the economic crisis, role of information technology, connections with the environmental crisis, dynamics of development in Africa and the global South, and what it means to be human today in a complex world. The module also focuses on the economic theories that justify the status quo, and the alternatives ranging from heterodox economics through to ecological economics and post-capitalist/socialist alternatives.

Introduction to Solar Energy 747/847 (Engineering module)

The course consists of a study of both Photovoltaics (PV) and Solar-thermal technologies for generating electricity from sunlight. The principles, manufacturing technologies, efficiencies, advantages and limitations of various PV cells will be considered. The students should be able to design a manufacturing plant as well as practical installations of various PV components in a cost effective way. The main themes will include:

- Principles of operation of PV cells;
- Manufacturing technologies of crystalline and thin film PV cells;
- Balance of system (BOS): regulators, inverters and storage;
- Design of stand alone PV systems;
- Design of roof mounted grid connected PV systems;
- Design of large MW PV systems;
- Concentrators: combined heat and power generation (CHP).

The different solar-thermal systems will be introduced with the basic heat transfer and thermodynamics principles that apply. Both bulk electricity generation and smaller stand alone systems will be covered. The main themes will include

- Thermodynamics, Heat Transfer;
- Bulk solar thermal power generation systems;
- Energy storage;
- Large scale plant specifics and quantification;
- Life cycle costing.

Leading Transitions and Environmental Ethics 773

Aim: to enable module participants to develop leadership capabilities that are premised on the capacity to recognise, describe, analyse and apply the different ethical models and value systems that underpin socioecologically responsible action. Central themes will include:

- the underlying ethical value systems of different approaches to leadership and facilitation;
- philosophical models for conceptualising environmental problems and the related approaches to environmental and ecological ethics – and why understanding these enables pragmatic action in conflicts in and around sustainable solutions;
- relationship between environmental, ecological and social ethics, e.g. flourishing through socio-ecological efficiency, freedom, equality, equity and justice;
- models of, and approaches to, leadership and facilitation within society and human organisations;
- the ethics of sustainability and process-oriented leadership;
- complexity, ethics, leadership and facilitation;
- creativity, spirituality and personal unfolding;
- case studies and exercises.

Renewable Energy Financing 771/871

Aim: To empower professionals to consider the potential of environmental finance when embarking on environmental projects. Specifically the course enables students to:

- Explain the importance of environmental finance in solving environmental problems.
- Understand the nature of typical environmental projects with specific focus on energy-related projects.
- Appraise the impact and applicability of various financial instruments in specific projects.
- Apply principles of environmental finance in the project finance environment.

This course will include a brief overview of some financial metrics such as IRR, NPV or DSCR.

The course will be most relevant to professionals at managerial or technical level in the electricity, oil, mining, investment, agricultural, insurance, environmental and public sectors. Although much of the focus in the course surrounds energy, some focus will also be given to wider environmental issues. However, this is not a course on biodiversity or impact assessments. It is also important to note that most of the course relates to environmental developments in a "project finance" paradigm.

It is strongly suggested that students should have experience of Excel, while knowledge of financial metrics (i.e. NPV, IRR, and DSCR) would be beneficial.

Renewable Energy Policy 771/871

Aim: To provide participants with an overview of the policy context, which must be understood as the regulatory, institutional and market setting for renewable energy technologies (RETs). To understand the policy context the sustainability of RETs, from the perspectives of policy-makers and other stakeholders, must be understood. The module is subsequently designed to address the following questions:

- What do sustainable RETs mean, and specifically in a municipal context?
- How can sustainable RETs be assessed, identified and prioritised at a municipal context?
- How may appropriate RETs be managed as sustainable energy value chains in Africa and urban environments?
- What tools can be used to promote appropriate and sustainable RETs in municipalities?

Renewable Energy Systems 714/814 (Engineering module)

This course forms the foundation of the various modules in Renewable and Sustainable Energy Studies. It will provide course participants with an overview of the most significant renewable energy resources, concepts, technologies and challenges to overcome climate change and other sustainable development goals and an insight into the possible solutions to sustainable energy usage. Course participants will be able to recognise, understand and evaluate the different renewable energy resources available today and in the future. The main themes will include:

- Basic Energy Concepts;
- Conversion of Energy;

- Renewable Energy Resources:
  - Hydro-Energy
  - Geothermal Energy
  - Tidal, Wave and Ocean Energy
  - Wind Energy
  - Solar Thermal Energy
  - Photovoltaic Systems
- Renewable Energy Scenarios;
- Case studies of renewable energy systems.

Research Dissemination 871

This module provides the student with the means to effectively communicate the research results contained in their respective master's theses to an intended academic and/or non-academic audience. Students will be required to convert their completed master's theses into a conference paper for presentation at an end-of-year colloquium, followed by preparation of the conference paper for submission to an academic journal for publication. After completion of the module the student will be able to adequately disseminate research in oral and written formats. Specifically, each student will be able to transform their respective completed master's theses into a conference paper, and thereafter into a journal paper for submission to a relevant journal.

Research Methodology 871

The challenges and problems that are posed by sustainable development are complex and mean that innovative approaches are required to investigate these challenges and problems. This module equips students that have already obtained the Postgraduate Diploma in Sustainable Development to undertake a comprehensive, transdisciplinary investigation of an identified challenge or problem that cannot be solved with conventional research approaches and mono-disciplinary theories.

After completion of the module the student will be able to adequately formulate:

- A literature review;
- The rationale to undertake research;
- A research problem and associated questions;
- Research objectives; and
- A research approach and strategy, including appropriate methods, to undertake a Master's-level investigation.

Sustainable Development I 771/871*

**Compulsory Foundation Module for PGDip (Sustainable Development) students*

Aim: This module will be the foundation stone of the entire PGDip (Sustainable Development) programme. It will provide course participants with an overview of the most significant global environmental, social and economic challenges that face humankind, and an insight into the solutions suggested by the universal commitment to sustainable development. Course participants will be able to recognise, understand and apply the divergent interpretations of sustainable development that currently exist. The main themes will include:

- What does sustainability – and sustainable development in particular - mean?
- What is the relationship between inequality and unsustainability? Or, alternatively, what is the relationship between strategies to reduce inequality (via poverty eradication for the poor and consumption reduction for the rich) and sustainable development?
- What are the dynamics of transition to a more sustainable world?
- What are the relationships between human life and all life forms and how has this relationship evolved over time? How can humans re-establish an intimate relationship with nature?

Sustainable Cities 775

This module provides a comprehensive overview of the spectacular transformation of the world as it crosses the threshold of becoming a majority urban world for the first time in human history. The module delves into the differential dynamics of worldwide urbanisation, with particular reference to the global South. It demonstrates that these large scale shifts in human movement, economic development and expansion of the built environment hold deeply troubling implications for sustainability. As part of understanding this phenomenon in a more rigorous manner, the module explores state-of-the-art thinking on how best to respond to the ecological implications of differential urbanisation for resource consumption and use, with a strong focus on the implications for the majority of urban citizens who find themselves in slums and reliant on informalised economic and eco-system processes. The challenge of designing, building and operating more sustainable urban infrastructure systems is a particular focus of the course. The module draws on case studies whenever possible in order to surface the complexity of everyday life and the institutional frameworks and structures that reproduce cities. The overall aim of this module is to introduce course participants to some of the key concepts and trends in the vibrant and fast expanding literature on contemporary urban challenges, including how to make cities more sustainable. This will be done by focussing in particular on urban infrastructures, and the flow of resources through urban systems understood through the lens of urban metabolism. This provides the foundation for dealing with the politics and governance challenges. The group work assignment is aimed at ensuring that course participants apply the concepts learnt during the week to the practical case of Cape Town's urban challenges. By the end of the course, participants will:

- have an in-depth understanding of the key urbanization trends and the dimensions of the infrastructure challenge from various perspectives;
- be able to apply key concepts to the practical challenge of allocating funds to achieve urban transformation in the city of Cape Town;
- critically engage the underlying value assumptions that shape the way different paradigms address the urban challenge.

System Dynamics Modelling 771

Aim: to provide participants with an appropriate way of visualising the complex interrelationships between various parts of real-world problems; problems that continually change over time and are resistant to corrective action. The module is an introductory one aimed at developing basic and some intermediate system dynamics modelling and simulation skills, and does not endeavour in advanced modelling. Essentially, the learning goals of the introductory course are:

- To acquire basic knowledge in, and understanding on system dynamics field / paradigm/ method;
- To demonstrate understanding in defining real-world problems using system dynamics
- To gain basic hands-on practice and experience in qualitative and quantitative system dynamics modelling; and
- To apply system dynamics method using VENSIM software in evaluating the dynamics underlying a specific real-world problem.

Therefore, this module introduces the concepts of system dynamics modelling, including the modelling process, fundamental modes of dynamic behaviour, and the stock-flow-feedback structures that generate them, system mapping tools, and modelling human behaviour. System dynamics has been applied in various fields such as energy transitions, resource scarcity, health policy, social and organizational dynamics, economics and finance, environmental and ecological management, education, safety and security among others. Examples will be drawn from some of these fields, as well as on 'real-world' problems contributed by the participants of the course. Computer simulation models will be produced using the VENSIM software package.

Transdisciplinary Design for Transformation 776

We live in a material world that has been designed by designers to achieve certain outcomes, usually to ensure maximum consumption of resources. Even many so-called natural environments are designed rather than still wild and 'natural'. A more sustainable world will mean changing our assumptions about design, and what should be designed. This course will therefore focus on the role of design in all its disciplinary manifestations during the industrial era (last 250 years): design has affected the shape and experience of industrialisation, urbanisation, urbanism, political economics, power relationships, globalisation and the quest for a sustainable future. It has shaped out ethics and leadership styles and processes. Through its function of object-making, communication-making, space-making, experience-making and systems-making, design plays a powerful role in the forming of values, identities, lifestyles, aspirations, expectations, choices and behaviour. These choices determine our relationship with 'stuff', with 'other' groups, with our environment, with the planet, with the future, with reality. If we want to change this relationship, we need to know how design works and what it will take to redesign the material world. The course will question whether design is Master of, Slave to, or Collaborator with, the dominant socio-political-economic-technical system.

DATES AND DEADLINES – 2018

Module/Event	Module code	Date presented	Due Date Individual Assignment	Due Date Journal Article (Master's Level)
Compulsory Orientation/Induction (new PGDip (Sust Dev) students)	N/A	**31 Jan – 2 Feb**	N/A	N/A
Sustainable Development I *(only for PGDip in Sustainable Development students)*	58718 771	05 - 16 Feb	03 April	N/A
Complexity Theory & Systems Thinking	11190 772	05 – 10 March	23 April	N/A
Leading Transitions & Environmental Ethics	13707 773	12 – 17 March	30 April	N/A
Sustainable Development II *(for students registered for any programme/ exchange at SU except PGDip in Sustainable Development)*	58718 771/871	12 - 17 March	30 April	14 May
Winelands Conference 2018: Countering failures of public values, ethics, institutions and markets from the bottom up		11 – 13 April	N/A	N/A
Food Security & Globalised Agriculture	12232 774	09 – 14 April	28 May	N/A
Renewable Energy Policy	11651 771/871	14 – 19 May	02 July	N/A
System Dynamics Modelling	12530 771	28 May - 8 June	23 July	N/A
Transdisciplinary Design for Transformation	13698 776	04 – 09 June	23 July	N/A
Biodiversity & Ecosystem Services	11490 772	18 – 23 June	06 Aug	N/A
Development Planning & Environmental Analysis *(classes presented on main campus)*	55492 771	16 – 20 July	tbc	N/A
Food System Transitions	13359 771	16 – 21 July	03 Sept	N/A
Globalisation, Governance & Development	13701 773	23 – 28 July	10 Sept	N/A
Applied Economics	11198 775	30 July – 04 Aug	17 Sept	N/A
Renewable Energy Financing	12531 771/871	13 – 18 Aug	01 Oct	N/A
Sustainable Cities	11199 775	13 – 18 Aug	01 Oct	N/A
Corporate Governance & Sustainable Enterprise	13700 774	20 – 25 Aug	08 Oct	N/A
MPhil thesis submission (Dec graduation)			**30 Aug**	
Capita Selecta: Comparative Studies in Sustainable & Regenerative Social-Ecological Systems (INDIA)	13703 771	20 Aug– 01 Sept (tbc)	tba	N/A
Capita Selecta: Comparative Studies in Sustainable & Regenerative Social-Ecological Systems (ETHIOPIA)		tba	tba	N/A
MPhil 2019 application & concept note		N/A	**30 Sept**	
MPhil thesis submission (March graduation)			**25 Oct**	
MPhil Research Methodology (research workshop)	51764 871	05 – 09 Nov		
MPhil Research Dissemination (colloquium)	11273 871	08 – 09 Nov	**05 Nov**	
MPhil proposal			**22 Jan 2019**	
MODULES OFFERED BY THE FACULTY OF ENGINEERING				
Renewable Energy Systems	64890 714/814	19 - 24 Feb	tba	
Introduction to Solar Energy	11294 747/847	09 - 14 April	tba	
Bio-Energy	64904 744/844	10 - 14 Sept	tba	

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MASTER'S PROGRAMME in Sustainable Development

2018

PROSPECTUS 2018