

# 2019 MASTER'S PROGRAMME in Sustainable Development

## PROSPECTUS 2019

*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

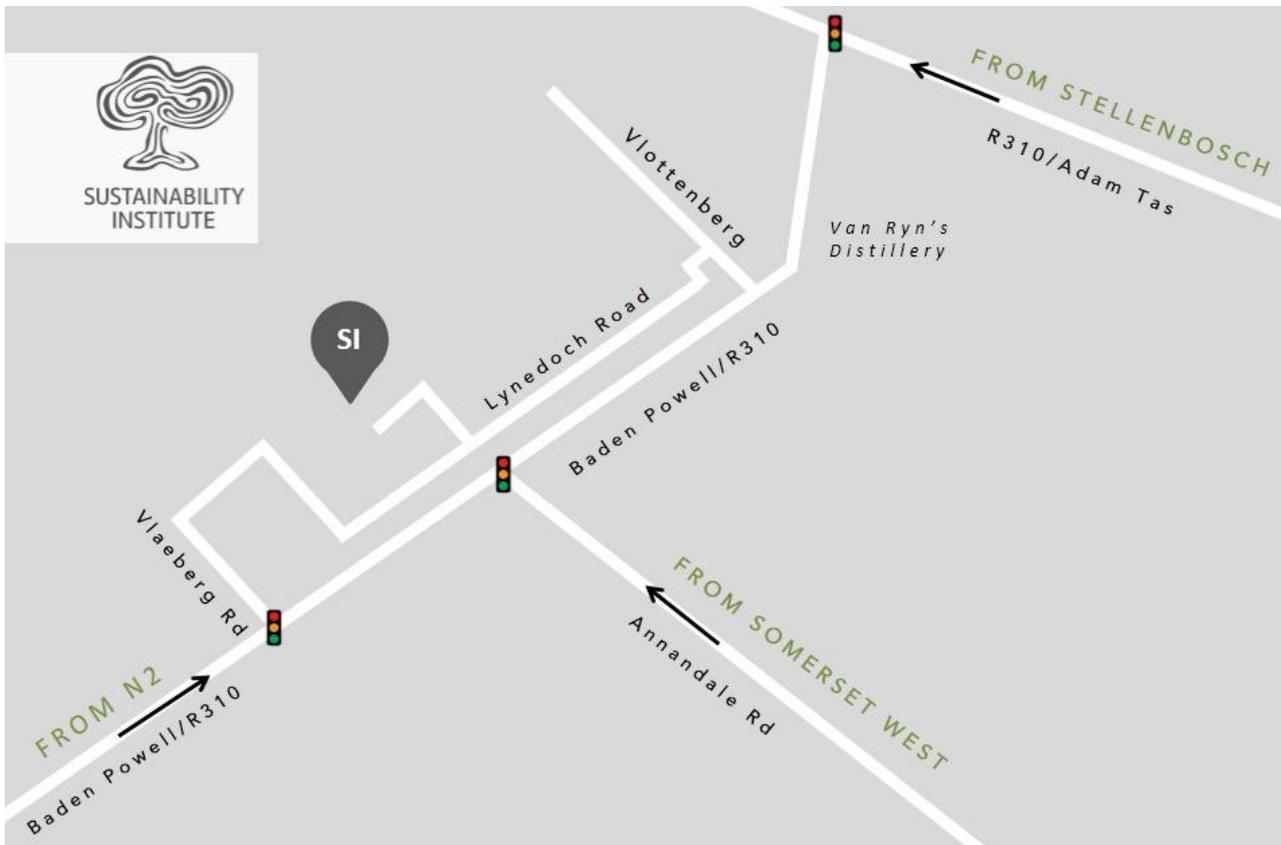
**Learning for Sustainable African Futures**



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# DIRECTIONS TO THE SUSTAINABILITY INSTITUTE (LYNEDOCH CAMPUS)



## DIRECTIONS:

### From Cape Town:

Follow N2  
Take exit 33 from N2  
Turn left onto Baden Powell Dr/R310  
Continue on Baden Powell Dr/R310  
Turn left onto Vlaeberg Rd at the traffic lights  
Head over the bridge and take your first right.  
Follow signs to Lynedoch and Sustainability Institute.

### From Stellenbosch:

Head west on Dorp Street  
Continue straight until you reach a T-Junction  
Turn left onto Adam Tas/R310 and continue straight  
Turn left onto Baden Powell Dr/R310  
Turn right onto Vlottenburg Rd (opposite Van Ryn's Distillery)  
Turn left onto Lynedoch Rd and follow signs to Lynedoch and Sustainability Institute.

## GPS COORDINATES:

33°58'56.7"S 18°46'07.4"E

Sustainability Institute  
Off Baden Powell/R310  
Lynedoch, Stellenbosch

PO Box 162, Lynedoch, Stellenbosch, 7603  
t +27 (0) 21 881 3196

[www.sustainabilityinstitute.net](http://www.sustainabilityinstitute.net)

### From Somerset West:

Head west on Main Rd/M9  
Turn right onto Broadway Blvd/R44  
Continue to follow R44  
Turn left onto Annandale Rd, continue straight  
Turn left onto Baden Powell Dr/R310  
Turn right onto Vlaeberg Rd (at the next traffic lights)  
Take your first right into Lynedoch Rd  
Follow signs to Lynedoch and Sustainability Institute.

# 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](http://www.schoolofpublicleadership.co.za)) in collaboration with the Sustainability Institute ([www.sustainabilityinstitute.net](http://www.sustainabilityinstitute.net)), the Centre for Renewable and Sustainable Energy Studies and the Stellenbosch Centre for Complex Systems in Transition (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 Masters 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 either 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 with a bursary from the Centre for Renewable & Sustainable Energy Studies may be required to choose energy studies 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 Linedoch Campus, which is situated at Linedoch, 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 Linedoch 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, Linedoch. 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 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) 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 is 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 R2000.00 by 18 November. This amount will be deducted from registration fees.

### Registration fee

The estimated registration fee for 2019 will be R9500. Deducting the R2000 deposit, this means that R7500 is payable by 25 January 2019. This is the first instalment on tuition fees.

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

R6170 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 2019):  $R6170 \times 8 = R49360$
- Part-time study (four modules per year over two years):  
2019:  $R6170 \times 4 = R24680$   
2020:  $R6700 \times 4 = R26800$
- *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 2019. The deposit amount (R2000.00) 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 (R2000.00) 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 2019. 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, completed online test on research methodology and attendance of the compulsory Research Workshop.
- 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. 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:
  1. 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 ( $\pm 40\,000$  words [ $\pm 120$  pages]).

OR

- iii. A traditional thesis in accordance with the normal academic format and requirements of the University, the School and the supervisor ( $\pm 40\,000$  words [ $\pm 120$  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 ( $\pm 8000$  words [ $\pm 24$  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 ( $\pm 30000$  words [ $\pm 90$  pages]).

OR

- iii. A traditional thesis in accordance with the normal academic format and requirements of the University, the School and the supervisor ( $\pm 30\,000$  words [ $\pm 90$  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 2019 will be R9500.

### Course fees

- Option 1: 150 credit thesis R23400 + 2 modules @ R6170/module = R35740
- Option 2: 120 credit thesis R18700 + 4 modules @ R6170/module = R43400

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  $\pm$  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 <http://www0.sun.ac.za/pgstudies/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. 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://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 - refer to Appendix C. This is by no means an exhaustive list of accommodation options available near the Lynedoch Campus.
- 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 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. Train services in South Africa are notoriously unreliable.

## UGOMYWAY (WWW.UGOMYWAY.COM)

In order to make transport to and from the Sustainability Institute more sustainable and more budget friendly to our students, the SI has partnered with the ride-sharing app, UgoMyWay, to match students who come from the same area with each other so they can share lifts.

# 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](http://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](mailto: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](mailto: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](mailto: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 *MySun (student portal)* 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 admitted 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 admitted 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 the following:

- a Research Workshop from 4-8 November 2019.

The application process is twofold, namely:

### **1. Research concept note**

All applicants must submit an electronic copy of a 1000 word 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. It is strongly recommended that applicants choose a research topic that falls within the research interests of our pool of supervisors. Contact the Programme Administrator for details.

## 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](http://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 *MySun (student portal)*: 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](mailto: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](mailto: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](mailto:interoff@sun.ac.za).

## USEFUL CONTACT INFORMATION

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

# 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

South Africa's political economy is the focus of this course. The transition to a post-Zuma government under the leadership of Cyril Ramaphosa has refocused attention on South Africa's economic challenges, in particular persistent poverty, inequality and unemployment. This course will trace the historical evolution of South Africa's political economy, the implications of the policy choices made after 1994, and the consequences of 'state capture' during the Zuma years. This provides the basis for examining the challenges facing the Ramaphosa government, with reference in particular to the role of investment-led inclusive and sustainable growth.

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 will 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)

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.

## 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 that 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

Details to be confirmed

## Complexity Theory and Systems Thinking 772

This course will focus on the theoretical and conceptual underpinning for understanding the dynamics and features of complex adaptive systems. Although there are various approaches to systems thinking in general, the complex adaptive systems approach has evolved into a rigorous analytical framework capable of dealing with both ontological and epistemological complexity. It is this framework that will be used for theory-building and related methods that can illustrate that sustainable transformations to more just Anthropocene futures will only be possible by considering the inter dependencies between social and natural systems. Complex adaptive systems thinking offers scholars and practitioners the conceptual principles and a mode of inquiry that offers practical heuristics to engage with uncertainty and change by considering the dynamic nature of the interlinked social and natural systems in which science-policy-practice interventions are to be implemented. In this research theme we will:

- explore how complex adaptive systems thinking can be used to inform and provide a conceptual framework for understanding human-nature interactions and sustainable development
- consider what principles and heuristics can guide knowledge co-creation, collaborative action and implementing strategic interventions to bring about change that reflect complex adaptive systems thinking approaches
- discuss what methods and approaches can be employed to better study and understand the systemic nature of human-nature interaction and transformative processes.

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. The main aim of this module is to make it possible for students to develop a general, albeit basic, understanding of the systemic nature of complex adaptive systems features. This understanding should not only be technical, but should help in the analysis of our complex world. Complexity theory has implications for our conceptions of knowledge, ethics, and of course, sustainability.

The following skills should be acquired in this module:

- An understanding of the development and historical context of complexity thinking.
- A basic understanding of complexity theory, complex systems and their relation to their environment.
- The ability to reflect on the status of (scientific knowledge) and to resist foundationalism, reductionism and positivism without falling into the trap of relativism.
- A sensitivity to the ubiquity of normative issues.

### Corporate Governance and Sustainable Enterprise 774

Corporate governance and sustainable enterprise is an inherently multi- and inter-disciplinary topic. Relevant fields include law, politics, ethics, psychology, economics, management, and sociology, amongst others. These disciplines bring different tools and perspectives to the study of sustainable enterprise, including an emphasis on individual, organisational, or social levels of analysis. One objective of this module will be to appreciate this diversity and complexity within an overarching framework. Furthermore, corporate governance and sustainability is not purely a descriptive concept. Rather, it has important normative and instrumental characteristics, and it is controversial and disputed. A second objective of this module will be to consider these different perspectives on organisational theory and social innovation literatures, including also a more critical analysis of accepted discourses. The module also aims to develop an understanding of corporate governance and sustainable enterprise in the context of developing countries. Common reference will be made to South Africa as an illustrative example. It will become apparent that the particular historical and social context plays a vital role in defining corporate sustainability at local and national levels. Overall, the module aims to provide both a rigorous theoretical framework as well as practical tools for assessing corporate sustainability rhetoric and practice, be it from the point of view of business, government, or civil society. By the end of the module, students will:

- Understand the market forces and context in which organisations operate, including temporal distortions, the externalisation of complex socio- ecological issues and ethics;
- Understand the diversity and complexity of the motives, implementation challenges, and assessments of corporate sustainability initiatives, considering both optimistic and critical approaches;
- Apply the concepts to past, existing, or proposed initiatives by business, either in terms of individual companies or collectively, as well as the role played by the public sector and civil society in promoting or criticising corporate sustainability initiatives;
- Have developed specific skills in identifying different motives for sustainable enterprise initiatives, assessing implementation strategies and management processes established in different companies and engaging diverse role-players and perspectives in debates surrounding corporate sustainability;
- Be able to make judgements regarding responsible business practice, ethical consumer choices, effective contributions to public policy, civil society advocacy, and personal actions and interactions related to open and constructive debate on the role of the private sector in sustainable development.

## Development Planning and Environmental Analysis 771\*

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), Impactsignificance 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 profil 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 proficien 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

After the massive food price increases of late 2008, much attention was suddenly focussed on food again: its availability, people's access to it and their utilisation of it. In order to deal with issues of food security, it is important to understand the globalised nature of food systems and how this context challenges attempts to address hunger and food security. The module is particularly relevant in terms of the recent international and South African initiatives around food security, which have seen high-level meetings of government departments, food processors, retailers, consumer groups, NGOs and farmers engaging around how to achieve food security in South Africa. The module provides the historical perspective needed to understand present day conceptualisations of food security, including the development of alternative approaches such as nutritional security or food sovereignty. A discussion of globalised food systems is a key focus of the course: how international food trade works (regulations, subsidies, commodity and futures trading); challenges of globalised food systems (how these have helped or undermined farmers/consumers in different parts of the world); and issues around environmental sustainability (for example, climate change, water use, peak oil, land use change). The rationale for the structure of this module is that it is essential to understand the history and structure of the food system in order to fully appreciate the complexity of the issues at play when examining food security, nutrition, lifestyle diseases, sustainable agriculture, land reform and appropriate government policies around these issues. Determining the 'best' way forward for the food system requires this contextual knowledge, and this module is regarded as the foundation course to be taken before the Food Systems Transitions module that runs later in the year.

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.

Central themes will include:

- An overview of globalised food systems;
- Food and nutrition security – global status, policy responses and debates;
- Food systems thinking;
- Food security and agricultural policy in South Africa (and other country cases).

On completion of this module, students will be able to:

- Understand the globalised nature of food systems and the varying viewpoints around this;
- Appreciate the complexity of food systems and food security;
- Critically evaluate the impact of various policy responses on food security and sustainable development in general.

## Food System Transitions 771

The module builds on knowledge students have gained in the Food Security and Globalised Agriculture module held earlier in the year. Recognising the structural inequalities in the food system and its large-scale negative impacts on the environment, is key to exploring existing and proposed alternatives and responses. Such explorations require engagement with theories of food systems, food and agriculture governance and policy, as well as food regimes, transitions and change. Assessing responses also requires an understanding of the converging and mutually reinforcing transitions that are driving deep and long-range changes in the food system. These are the key themes that run through the module. Various frameworks exist that attempt to categorise the emerging responses and help us better understand the initiatives and their potential impacts. Students will engage with these frameworks to determine which are useful in analysing change initiatives. Across the spectrum, these food system alternatives are not without their challenges and critics. The burgeoning local food movement has been criticised for being elitist and unlikely to bring about the systemic changes needed. Many feel that the food sovereignty movement has reached a critical impasse and is being stifled by unresolved conflicts over key issues – like how non-producers fit into the framework (see for example Alonso-Fradejas et al. 2015). These challenges and tensions will be explored further in the module. South Africa has its own manifestations of food system change initiatives. For example: the organic farming and permaculture movements, Slow Food convivia, and the more recent formation of what seems to be a broader social movement coalescing around food sovereignty. This module will introduce students to some of these alternatives and encourage critical analysis via the various conceptual frameworks introduced during the week.

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 contextualise 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, students will 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, as well as food system change initiatives.

### Globalisation, Governance and Development 771

Since 2003 this course has focussed on globalization – what it means, implications for governance and social movements. In 2016 the focus shifted from globalization as a socio-economic and political process, to theories of radical alternatives to the current global economic order. Although quite a wide range of literature and perspectives will be addressed, they all address the key questions of our times: What comes next? Or What should come next? These two questions look similar, but they are very different: the former is about looking for patterns that can be interpreted in ways that may help to anticipate what may be emerging; while the latter is a more normative endeavour to formulate alternatives usually from paradigmatic starting points (ecological, Marxist or reformist). Unsurprisingly, this is a field of inquiry that is heavily populated with a vast literature written from all sorts of different perspectives. Instead of striving for coverage, this course will focus on a limited number of carefully selected materials. Specific texts will be identified that course participants will be expected to read and discuss in class, possibly with summary presentations by some selected individuals. This is not material that is easily grasped via traditional lectures. The best way is to read certain texts, and to use the classroom for discussion to ensure the concepts are properly understood. This course aims to provide course participants with an introductory understanding of the range of alternatives to the current global order that have started to emerge from a selection of literatures. Course participants will be required to identify the differences between these approaches and the implications for action by different actors committed to radical social change. By the end of the course, course participants will understand the global debates about alternatives to the current crisis-ridden global economic order. They will:

- understand the different approaches and the assumptions on which they are based;
- understand the implications for social change of the different approaches, in particular the role that different actors will in the social change process; and
- be able to critically engage with the different approaches in order to more adequately work out what they think would be appropriate given particular contexts and value systems.

### Introduction to Solar Energy 747/847 (Engineering module)

A student who has successfully completed this module is able to:

- Recall and use solar energy terminology and definitions.
- Understand and interpret solar maps.
- Understand the Possibilities and Limits of the use of Solar Energy.
- Understand the basic working of a PV cell.
- Understand the manufacturing Technology of Crystalline Silicon Solar cells.
- Understand the manufacturing Technology of Thin Film Solar cells.
- Be able to evaluate the different PV Technologies.
- Understand the functions of the Balance of System components.
- Be able to design a stand-alone PV System.
- Understand the principles of Grid connected PV.
- Know the present installations and developments of PV in the world.
- Understand the design of and selection of materials for solar collectors.
- Understand technical and economic trends in solar thermal electric power generation for South Africa and the world.
- Explain the significance of energy storage and describe a number of technologies.
- Recognise the different concepts of bulk solar thermal electric power generation and explain the operation, benefits and drawbacks of each.
- Understand and be able to explain other uses for solar thermal energy including solar water heating, cooking, heating and cooling, desalination and others.

- Perform fundamental calculations relating to the capacity and size of solar plant.
- Understand the life cycle costing approach as a basis for investment decisions.

### Leading Transitions and Environmental Ethics 773

This course focuses on the challenge of ethical leadership within a context of creating socio-ecological transitions. Courage, chaos and complexity are an inherent part of attempting to create alternative futures, for all life. How do we act, sure-footed, when we have no idea of what is really at play? The key question to ensure fairer futures, for humans and other-than-humans, must rest within the human species on the ability to create collective leadership facing tough choices. In a world currently characterised by sharp divides - from mind/body within individuals to rich/poor within the international community – the enduring hunt is for places and people who seem to be 'going beyond'. The paradoxes within place, identity, voice and interpretation; indeterminacy and irony; power, policies and personalities form a field of uncertainty that needs to be traversed through minute attention to the patterns and processes continuously emerging. Environmental ethics and values-based leadership creates an approach to the study of human interaction in nature. This intensive module aims to help participants reflect on their own fundamental assumptions about socio-ecological ethics, leadership and authority. Exercising leadership is a demanding, often gruelling and risky endeavour. Our experiential approach focuses on creating space for ensouling learning, possibly shifting assumptions that may well affect the way participants understand and address significant leadership issues. Active engagement in the classroom, small groups, morning work, individual reading and reflection will provide the context for grappling with the contradictions within ethics for leadership in socioecological transformations. In the context of re-framing real learning, your participation will help create the learning outcomes that are yours. These are far and above the most important that there are. In the course of this experience, specific outcomes may be:

- The ability to identify and focus on the adaptive nature of a problem, rather than its technical aspects;
- A skill to build identity through narratives;
- A capacity to discern and work with the interplay between individual and group dynamics;
- A skill to unlock individual and group creativity;
- A sharpened ability to recognise and evaluate the values and principles underlying ecologically destructive as well as ecologically sound behavior;
- A capacity to analyse and evaluate the ethical positions and assumptions of different parties involved in socioecological disputes.

### 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

The rise of renewable energy technologies (RETs) internationally and specifically in Sub-Saharan Africa, must be understood in the context of global climate and development frameworks such as the Sustainable Development Goals and the Paris Agreement. South Africa has set ambitious targets, aligned with other emerging economies, to achieve various outcomes that address, amongst others, energy security, climate change and socio-economic development. Realising these commitments will require significant policy interventions to potentially shift South Africa towards a low-carbon economy that supports inclusive

economic growth as prescribed by the National Development Plan (NDP). Given South Africa's historic reliance on fossil fuels, consolidated in the Mineral Energy Complex (MEC), the rise of RETs have the potential to disrupt and transform the country's political economy. Against this backdrop and informed by South Africa's specific energy policy landscape, this course will focus on various Renewable Energy Policies and investigate their potential contribution to a just transition towards sustainable and inclusive economic growth. This will include various scales and configurations from the utility scale Renewable Energy Independent Power Producer Procurement Programme and the municipal scale Small Scale Embedded Generation policies, to off-grid and grid-connected decentralised systems. Participants will engage with the complex challenges involved in energy transition dynamics and the introduction and promotion of RETs, specifically in the sub-Saharan African context. We hope to give particular emphasis to the international policy context shaping South Africa's energy transition, and ground this in an exploration of the socio-economic and political implications of various renewable energy policies. This course will cover the following themes through a series of lectures, interactive sessions and case study approaches:

- International climate change policies and targets;
- International energy trends and the rise of RETs;
- Energy policy cycles from drafting to implementation;
- RET systems within the context of regulatory, financial, institutional and market dynamics;
- Political economy of South Africa's energy policy;
- Prospects for a renewable energy industry in South Africa;
- Renewable energy policy at various project scales;
- Utility scale RET policy across Southern Africa;
- Socio-economic and developmental impacts of the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP);
- RET policies to support urban energy transitions and decentralised RET applications;
- Trends shaping South Africa's energy transition.

### **Renewable Energy Systems 714/814 (Engineering module)**

This course will address the scientific, engineering and resource aspects of various renewable energy technologies as possible solutions to meet the developmental needs of society. A student who has successfully completed this module is able to:

- Understand renewable energy with specific reference to the following:
  - Basic mechanics related to energy and energy systems.
  - Different forms of energy and their conversion from one to another, as governed by the laws of thermodynamics.
  - Direct use of heat energy in practice as a means of energy supply.
  - Conversion of energy forms into electrical energy.
  - Storage and transmission of energy for practical use.
  - Conversion technologies, efficiencies and utilisation of the following Renewable Energy sources: Hydropower; Geothermal; Wind; Biomass; Solar PV; Solar Thermal; etc.
  - Basic principles of photovoltaic conversion and photovoltaic (PV) solar cells.
- Evaluate the technological viability of various energy scenarios and innovative new energy conversion technologies with reference to a particular application, using his/her scientific and engineering knowledge obtained in the course.

### **Research Dissemination 871**

This module provides the student with the means to effectively communicate the research results contained in their respective masters' theses to an intended academic and/or non-academic audience. Students will be required to convert their completed masters' 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 771/871\*

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

This course focuses on the rise to global prominence of the challenge of sustainability in general and sustainable development in particular. Public policy debates at the global levels of governance are increasingly focussing on the challenges posed by natural resource limits – especially limits to how much more CO<sub>2</sub> can be absorbed - to the ways production and consumption are currently structured and managed within a world that is sharply divided between the rich (located mainly in the global North) and poor (located mainly in the global South). The adoption by the UN of the Sustainable Development Goals in September 2015 marks a turning point in global world history because it is the first time that there has been a global commitment to eradicating poverty and doing this in a way that is ecologically sustainable. The Paris Agreement in December 2015 on the climate and the Habitat III Conference in Quito to adopt the New Urban Agenda consolidated the commitment to the SDGs. The challenge facing the world today is not just about the redistribution of resources to ensure greater levels of social equity, but also about how to reorganise the extraction, use and disposal of those resources in order to ensure longer-term survival of the eco-systems that sustain all life. Indeed, addressing the latter holds the key to addressing the former challenge appropriately. However, it is unlikely this will be achieved if the current world economic order remains intact. This epochal challenge raises key questions: How do we rethink the relationship between society and nature so that the development of the former is not at the expense of the latter? What are the implications of this new relationship for strategies to reduce inequalities, and in particular is poverty eradication possible without consumption reduction amongst the rich? What will the transition to a more sustainable global economy look like? Can capitalism be reformed or is an alternative system required? This course will address these questions.

This course will be the foundation stone of the entire PGDip (Sust Dev) 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 following questions will guide the lectures and discussions:

- 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? Are there other ways of knowing that go beyond traditional rationalistic 'western ways' of knowing?
- Can capitalism be reformed or must alternatives be introduced?

By the end of the course, participants will have understood and grappled with the complex challenges that arise from the global call for a more sustainable future. To achieve this general learning outcome, course participants will:

- understand the most important environmental problems, such as climate change, waste and pollution, biodiversity destruction, and resource depletion;
- understand the most significant social challenges, including demographic change and expansion, pandemics, poverty, over-consumption, endemic violence, migration, and urbanisation;
- understand the key global economic trends that currently determine and shape the dynamics of national and local economies, and the centrality of socio-economic inequality;
- comprehend the history of, and different approaches to, the notion of sustainable development, and apply these to different interpretations of specific developmental contexts;
- relate the challenge of transition to a sustainable future to the current global economic crisis; and
- appreciate the complex dynamics of human-nature relationships from a deep ecology perspective and how to apply different ways of knowing and being that are appropriate for uncertain and insecure times.

### 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 exploring the lived experience of a range of urban residents and engaging with urban 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
- critically engage the underlying value assumptions that shape the way different paradigms address the urban challenge

be able to apply key concepts to the practical challenge of allocating funds to approach urban transformation using the city of Cape Town as case

### 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.

# APPENDIX B

## DATES AND DEADLINES – 2019

Module / event	Module code	Date presented	Due date Individual Assignment	Due date Journal Article (master's level)
<b>Compulsory Orientation/Induction [for new PGDip (Sustainable Development) students]</b>	n/a	<b>30 Jan – 1 Feb</b>	n/a	n/a
Sustainable Development I [only for PGDip (Sustainable Development) students]	58718 771	04 - 15 Feb	01 April	n/a
Complexity Theory & Systems Thinking	11190 772	04 – 09 March	23 April	n/a
Sustainable Development II [for students registered in any programme/exchange at SU except PGDip (Sustainable Development)]	58718 771/871	11 – 16 March	29 April	13 May
Leading Transitions & Environmental Ethics	13707 773	01 – 06 April	20 May	n/a
Food Security & Globalised Agriculture	12232 774	08 – 13 April	27 May	n/a
Capita Selecta: Comparative Studies in Sustainable & Regenerative Social-Ecological Systems (SOUTH AFRICA)	13702 771	26 April – 1 May	17 June	n/a
Transdisciplinary Design for Transformation	13698 776	06 – 11 May	24 June	n/a
Renewable Energy Policy	11651 771/871	13 - 18 May	01 July	15 July
System Dynamics Modelling	12530 771	27 May – 07 June	22 July	n/a
Capita Selecta: Comparative Studies in Sustainable & Regenerative Social-Ecological Systems (BRAZIL)	13702 771	09 – 19 June	5 August	n/a
Biodiversity & Ecosystem Services	11490 772	24 – 29 June	12 Aug	n/a
Food System Transitions	13359 771	15 – 20 July	02 September	n/a
Globalisation, Governance & Development	13701 771	22 – 27 July	09 September	n/a
Applied Economics	11198 775	29 July – 03 August	16 September	n/a
Renewable Energy Financing	12531 771/871	12 – 17 August	20 September	27 Sept
Sustainable Cities	11199 775	19 – 24 August	07 October	n/a
Development Planning & Environmental Analysis (classes presented on main campus)	55492 771	19 – 23 August	14 October	n/a
Corporate Governance & Sustainable Enterprise	13700 774	26 – 31 August	14 October	n/a
<b>MPhil thesis submission (December 2019 graduation)</b>			<b>31 August</b>	
<b>MPhil 2020 application &amp; concept note</b>		n/a	<b>30 September</b>	
<b>Research Methodology tests completed (MPhil 2020 applicants)</b>			<b>31 October</b>	
<b>MPhil thesis submission (March 2020 graduation)</b>			<b>28 October</b>	
<b>MPhil Research Methodology (research workshop)</b>	51764 871	<b>04 – 08 Nov</b>		
<b>MPhil Research Dissemination (colloquium)</b>	11273 871	<b>07 – 08 Nov</b>	<b>05 November</b>	
<b>End-of-year celebratory lunch for all PGDip/MPhil (Sustainable Development) students</b>		<b>8 November</b>		
<b>MPhil proposal</b>			<b>20 Jan 2020</b>	
<b>MODULES OFFERED BY THE FACULTY OF ENGINEERING</b>				
<i>Renewable Energy Systems</i>	64890 714/814	18 – 23 Feb	Tba	
<i>Introduction to Solar Energy</i>	11294 747/847	08 – 13 April	Tba	
<i>Bio-Energy</i>	64904 744/844	24 – 29 June	Tba	

Updated 7 December 2018

# APPENDIX C



## A new purpose for the historic Drie Gewels building

Our guest house is closing to make room for more learning and research spaces

As we are growing and deepening our focus on our teaching and research programmes, we will be closing the Guest House and converting the building into additional teaching, office and venue spaces. From 23 September 2018, the Sustainability Institute will no longer directly offer accommodation to visitors or students. We will be lovingly restoring the beautiful heritage building, and continue to welcome many through her doors into our beautiful learning and research spaces!

One important function that will remain is the preparation of meals in the kitchen for the more than 200 children that receive meals while attending school or the youth programme. This is one of our core functions and will continue as before.

For accommodation in the Lynedoch Eco-Village, we are excited to announce that the residents will be offering a range of village homestays opportunities that offer a wonderful opportunity to experience life in the village first hand, while supporting additional income generating opportunities for our immediate community. Please contact Lelo Mabeba for village stay enquiries and bookings: [lelomabeba@gmail.com](mailto:lelomabeba@gmail.com)

For additional nearby accommodation, the following alternatives are available:

### Budget accommodation

- Aspidistra: Quiet lodging in garden setting near to the SI ([willieschmidt@telkomsa.net](mailto:willieschmidt@telkomsa.net))
- Banghoek Place: Backpackers on Stellenbosch University Campus
- Christian Brothers: Affordable accommodation with plenty of different options
- iKhaya Backpackers: Backpackers in the centre of town
- Stellenbosch Travellers Lodge: Backpackers on the edge of town
- Stumble Inn Backpackers: Backpackers in historic town centre

### Guesthouses (Nearby)

- Onze Rust: Four star Guesthouse
- Soverby: Guesthouse in historic farm building or newer cottages

- LovanE: Guesthouse or self-catering cottages on boutique wine farm

### Guesthouses (Town Centre)

- Roosenwijn: Guesthouse in South African National Monument building
- Life & Leisure: Contemporary guesthouse and self-catering options
- Bonne Esperance: Boutique guesthouse in a Victorian villa

### Hotels

- Asara: Five star hotel on nearby wine estate
- Devon Valley Hotel: Charming hotel tucked away in beautiful valley
- Stellenbosch Hotel: Affordable historic hotel in the heart of Stellenbosch
- Spier Hotel: Four star, fair-trade certified hotel on a leading sustainably-minded wine farm

Yours sincerely,

*The Sustainability Institute team*

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