



IrrigationWise Academy

LEARN TO GROW

D3: Introductory Irrigation Design Course

COURSE AIMS

- To establish a uniform standard of knowledge amongst irrigation designers.
- To promote a more focused use of sophisticated equipment.
- To broaden the professional image of irrigation designers.
- To lay the foundation for more specialized irrigation training.

COURSE OUTCOMES

After completing the Introductory Irrigation Design Course, learners will be able to:

- Understand the interaction between soil, water, climate and plants during irrigation.
- Apply the principles of hydraulics to plan and design the different components of irrigation systems.

An IrrigationWise Academy certificate of competence is issued upon successful completion of the course.

COURSE FORMAT

Lectures on theoretical aspects are presented in an interactive manner, supported by demonstrations where possible. During the course there will be opportunities to discuss practical problems, and assignments have to be submitted.

WHO SHOULD ATTEND

- People interested in a career in irrigation design, or who are responsible for the management of large commercial irrigation farms or estates.
- Those who are responsible for the development and implementation of irrigation water use policy at institutional level (national government, catchment management agencies, irrigation boards / water user associations etc.)
- Government officials and consultants responsible for irrigation project designs, drawing up of specifications and tenders, project management and supervision of installation
- All persons working in the irrigation industry (irrigation companies and consultancies).

PRE-REQUISITES FOR ADMISSION

The minimum requirement is matric with a pass in mathematics.

It is strongly recommended that learners first complete SABI courses D1 (Irrigation Sales Assistant Course) and D2 (Introduction to Surveying and Mapping Course). The content of these courses is assumed to be known to learners registering for the Introductory Irrigation Design Course.

Alternatively, learners must be able to provide evidence of prior learning and basic knowledge of irrigation equipment (pipes, fittings, pumps, filters, emitters) and the use of contour maps.

DURATION OF COURSE

The course is presented as 4 non-consecutive block weeks, with an additional block week for those learners requiring accreditation with the AgriSETA.

Stellenbosch

Block week 1	3 - 7 May 2021
Block week 2	7 – 11 June 2021
Block week 3	5 – 9 July 2021
Block week 4	2 – 5 August 2021

Pretoria

Block week 1	17 - 21 May 2021
Block week 2	21 - 25 June 2021
Block week 3	19 - 23 July 2021
Block week 4	16 – 20 August 2021

AgriSETA Block week 5:

Stellenbosch:	6 - 9 September 2021 (NQF level 5)
Pretoria:	20 – 23 September 2021 (NQF level 5)

ASSESSMENT

Assessment will take place continuously during the course modules by means of both written exams and portfolio assignments, which learners have to complete successfully to show they are competent. Successful candidates will receive an IrrigationWise Academy certificate. The best student will receive a bronze medal at the bi-annual SABI congress.

COURSE FEES

R16 605 (SABI Members) and R15 605 (Non SABI Members) VAT excluded – fees include the Irrigation Design Manual which are used as study material. The course certificate will only be issued when the entire course is completed and paid for.

AgriSETA accreditation – additional R6 794 (SABI Members) / R7 7947 (Non-SABI members) VAT excluded. Fees includes evaluation kit (value = R1500).

ACCOMMODATION

Learners are responsible for arranging their own accommodation and transport as the cost thereof is not included in the course fees.

MEALS

Coffee/Tea and a light lunch are included in the course fee.

CONTACT PERSON

René van der Merwe	021 850 8220	E-mail: admin@sabi.co.za	(Administration)
Uli Peters	082 822 2484	Email: uli@sabi.co.za	(Course content)

NEEDS FOR COURSE

Writing pad, scientific pocket calculator, ruler, pens, pencils, eraser, laptop computer.

ASSESSMENT – IrrigationWise Academy Certificate

Overview

Assessment will take place continuously during the course and certificates will only be issued to learners who have completed all assessment activities in a competent manner.

In order to complete the course successfully a learner must show that he / she is competent by completing a number of activities during the course. These activities include written exams, assignments and class tests.

Assessment activities

- Soil science exam
- In-field system design exam
- Mainline and pump station design exam
- Learner assignment - On-going case study

In order to transfer and establish as many skills as possible to the learners during the course, each learner must undertake an actual irrigation design in parallel with the learning activities, completing the design activities as they are learnt in class. The learner will need to identify an area for which an irrigation system must be designed, and obtain the necessary information and documents (contour map to scale, soil and water analyses results, crop and climate information, water source information, management preferences of the irrigator, etc.) as the course progresses to do the actual design. There will be a report back in every block week.

The schedule of activities to be completed is as follows:

- By the first day of the second block week, submit a completed irrigation plan based on the climatic, soil, crop and proposed irrigation system information, together with a contour map of the area for which the system is to be designed.
- By the first day of the third block week, submit a design report on the planned in-field irrigation system to be supplied.
- By the first day of the fourth block week, submit a design report on the planned water supply system (mainlines and pump station)
- On the last day of the fourth block week, present your design to the class and the examiners.

The assignment activities will follow theory presented in class and will be discussed regularly.

Any absence from exams must be supported by an official and valid statement (e.g. a medical certificate) and must be submitted to the facilitator within three days after the date of the test. A special test for all legitimate absentees can be arranged.

AgriSETA accreditation

Learners that require AgriSETA accreditation of their course attendance are required to attend an additional block week and to have access to an operational irrigation system where they can implement the operation, monitoring and evaluation plans they compile during the course, preferably under mentorship of an experienced SABI member. They are also required to attend at least 1 meeting of a subject society such as SABI while registered for the course. The accredited course complies with the AgriSETA accredited unit standard “Develop suitable irrigation systems” (Nr 116414), which forms part of the curriculums of the National Diploma in Plant Production and National Diploma in Agricultural Extension. Accreditation is done through the College for Sustainable Agriculture, and the following additional course outcomes will be achieved:

- To apply efficient and cost-effective management of irrigation systems by compiling and implementing operational, monitoring and maintenance plans for:
 - Resource management
 - Water quality management
 - Scheduling
 - Fertigation
 - Hygiene management
 - Asset management
 - Safety management
 - Environmental management