



CIAE

Central Institute of Agricultural Engineering Bhopal

Courses

1. Design, Testing and Production Technology of Agricultural Implements and Machinery.
2. Machinery for Mechanization of Rice Cultivation.
3. Field plot machinery for mechanization of field research.
4. Equipment and Technology for Processing and Value-addition to Agricultural Produces at Small Scale/ Rural level.
5. Soybean processing and utilization.
6. Design & Testing of Irrigation & Drainage Equipment system
7. Utilization of agricultural machinery for increasing production & Productivity.
8. Women friendly technologies on the farms for crop production, value addition, renewable energy utilization & rural entrepreneurship.
9. Instrumentation for R&D in agricultural engineering (agro processing & food engineering).
10. Computer aided design of agricultural machinery.

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The Central Institute of Agricultural Engineering (CIAE), was established on Feb. 15, 1976. The CIAE is a premier institute in the country to conduct basic, applied and adaptive research leading to development of improved agricultural equipment, recipes and technologies. The institute is spread on a campus of 94 ha farm with fully air conditioned international hostel (20 person); guest house (40 person) and one hostel (30 person) for accommodation. It has a strong workforce of 433 of which, 66 are scientist/engineers and 194 technical staff. The disciplines represented are agricultural engineering, soil science, agronomy, plant protection, bio-chemistry, micro-biology, food sciences, mechanical engineering, electronics & instrumentation, computer application, statistics, economics and industrial management.

1. Design, Testing and Production Technology of Agricultural Implements and Machinery

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Computer aided design; functional and structural design concepts; test codes and procedures; data analysis and result interpretation; manufacturing techniques; manufacturing process design; standardization and quality control; material selection and its characterization; resourcing components and spares; intense hand on practice in lab (20%); country report presentation and group discussions.

Course Directors	: Director, CIAE, Bhopal
Duration	: 2 Weeks
Course Fee	: US \$ 1000
No. of Trainees per course	: 10-15
Accommodation	: International Training Centre (ITC)
Eligibility	: Agricultural Engineers, Extension Officers, Research Engineers, University Teachers, Entrepreneurs.



A view of Prototype Production Centre



Prototypes manufactured in PPC

2. Machinery for mechanization of rice cultivation

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Characteristics of rice crop; tillage and seedbed preparation, sowing and planting requirement; nursery raising techniques; manual and automatic rice transplanters; harvesting machines; threshing machine; test code and procedures; data analysis and result interpretation, instance hand on practice in lab (40%), field / plant visits (20%), country report presentation and group discussions.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees : 10-15
per course

Accommodation : International Training Centre
(ITC)

Eligibility : Agricultural Engineers, Extension
Officers, Research Engineers,
University Teachers,
Entrepreneurs



Mechanical transplanting of rice seedlings



Mechanical harvesting of rice

3. Field plot machinery for mechanization of field research

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Mechanization of field plot operation requires field plot mechanization; precision and precision and pneumatic planter; plot threshers; test code procedures; data analysis; result interpretation; intense hand on practice in lab; field/plant visits; country report presentation and group discussion.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees per course : 10-15

Accommodation : International Training Centre (ITC)

Eligibility : Agricultural Engineers, Extension Officers, Research Engineers, University Teachers, Entrepreneurs.



Precision plot drill in operation

4. Equipment and technology for processing and value addition to agricultural produces at small scale/rural level

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Technology / equipment for cleaning and grading/ decorticating/peeling/pearling/milling of cereals/ pulses/oilseeds/spices; selection criteria, installation and maintenance of processing equipment for value addition; developing project reports and economic viabilities; intense hand on practice in lab; field plant/visit; country report presentation and group discussion.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees per course : 10-15

Accommodation : International Training Centre (ITC)

Eligibility : Agricultural Engineers, Extension Officers, Research Engineers, University Teachers, Entrepreneurs.



Pedal operated potato peeler



Pedal operated potato slicer

5. Soybean processing and utilization

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Nutritional importance of soybean; technology and process for value addition; selection, installation and operation of value addition machines or plants; various soy products and their nutritional qualities project profiling and economic viability; intense hand on practice in lab (50%); field/plant visits (20%); country report presentation and group discussions.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees : 10-15
per course

Accommodation : International Training Centre
(ITC)

Eligibility : Agricultural Engineers, Extension
Officers, Research Engineers,
University Teachers,
Entrepreneurs.



Soy milk paneer plant



Soy paneer pressing device

6. Design and testing of irrigation and drainage equipment system

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Computer aided designing; design, installation and automation of lift irrigation, drip and sprinkle irrigation system; drainage technology and its equipment; water harvesting and recycling technique; test codes and procedures; computerized testing of drippers and centrifugal pumps; data analysis and result interpretation; intense on practice in lab; field/plant visits; country report presentation and group discussions.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees : 10-15
per course

Accommodation : International Training Centre (ITC)

Eligibility : Agricultural Engineers, Extension Officers, Research Engineers, University Teachers, Entrepreneurs.



Computerized testing of irrigation equipment

7. Utilization of agricultural machinery for increasing production & Productivity

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Utilization and management of agricultural tools, implements and for tillage, sowing/transplanting, interculture, harvesting and threshing; intense hand on practice in lab; field/plant visits; country report presentation and discussions.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees : 10-15
per course

Accommodation : International Training Centre
(ITC)

Eligibility : Agricultural Engineers, Extension
Officers, Research Engineers,
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Animal drawn patella harrow in operation



Pneumatic planter in operation

8. Women friendly technologies on the farms for crop production, value addition, renewable energy utilization & rural entrepreneurship

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Women friendly tools, implements and equipment for various farm operation e.g. tillage, seeding & planting, transplanting, weeding & interculture, plant protection, harvesting and threshing, various processing equipment for cleaning, grading, decortication, milling, during, packaging, soy processing, agro-processing etc. Intense hand on practice in lab (30%) field/plant visits (25%); country report presentation and group discussions in the course.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees per course : 10-15

Accommodation : International Training Centre (ITC)

Eligibility : Agricultural Engineers, Extension Officers, Research Engineers, University Teachers, Entrepreneurs.



Wheel hoe weeders being operated by farm women



Groundnut decorticator in operation

9. Instrumentation for R & D in agricultural engineering [agro processing & food engineering]

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Study of basic instruments, sensors, transducers and recorders. Design of strain gauge based measuring system and circuits and calibration. Measurement of temperature, pressure texture analysis, particle size analysis and rheological properties; intense hand on practice in lab (60%); field /plant visits (20%); country report presentation and group discussions.



Instrumentation in agricultural engineering

Course Directors	: Director, CIAE, Bhopal
Duration	: 2 Weeks
Course Fee	: US \$ 1000
No. of Trainees per course	: 10-15
Accommodation	: International Training Centre (ITC)
Eligibility	: Agricultural Engineers, Extension Officers, Research Engineers, University Teachers, Entrepreneurs.

10. Computer aided design of agricultural machinery

Faculty

Scientists and experts on the subject are available in the Institute. In addition guest speakers/ experts from nearby Research Organizations and SAUs are also available for organizing the training programme.

Course Contents

Introduction to computer aided designing and various CAD software's; hardware and software's requirement for CAD; introduction to Pro-Engineer and solid modeling of parts and assemblies and creating of design documentation with Pro-Engineer wildfire 3.0 CAD software's; intense hand on practice in lab (70%); field / plant visit (10%); country report presentation and group discussions.

Course Directors : Director, CIAE, Bhopal

Duration : 2 Weeks

Course Fee : US \$ 1000

No. of Trainees : 10-15
per course

Accommodation : International Training Centre
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Eligibility : Agricultural Engineers, Extension
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Training in computer aided design