

# Applied Engineering—Specialist Diploma Programs

The responsibilities of the Environmental Engineering Specialist are defined in MIL-STD-810; however universities do not provide programs directed at this activity. TTI has been teaching in the environmental engineering field for forty years. Thus, TTI was ideally prepared to develop the Applied Engineering Specialist Diploma Program to assist in the development of knowledge and understanding required to be able to act as an Environmental Engineering Specialist.

The program provides individuals already working in government or industry the opportunity to enhance their understanding of their everyday work by following a structured program over several years. TTI's courses are developed and presented by qualified experienced engineers who continue to work professionally in their chosen engineering fields.

The successful completion of a TTI Specialist Diploma Program demonstrates that the individual has pursued a continuing educational program while obtaining experience and has kept up to date in the latest applicable technologies.

**Technology Training Inc.'s** Specialist Diploma Programs are offered to personnel actively involved in various aspects of engineering. Through these programs, individuals can acquire specific application-oriented advanced education with particular emphasis on current technologies and methodologies. Completion of a TTI Diploma program will add breadth and depth to the participants' knowledge and skills and will assist them in preparing for increased responsibility in their careers.

The requirements for a TTI Specialist Diploma are:

- Practical Experience,
- [Specific application-oriented continuing education courses,](#)
- Thesis on a practical activity.

**Practical Experience** Each participant shall be actively involved in the selected engineering field and have "hands on" practical experience, a description of which shall be submitted to TTI. A minimum of forty-eight (48) months related experience is required prior to award of the TTI Diploma.

## **Application-Oriented Continuing Education Courses**

Each specialist program consists of seven courses. During the period when the participant is obtaining the required practical experience in the "real world," the participant also undertakes an educational program consisting of approximately 130 to 140 hours of on-line or classroom instruction. This training program has been designed so that the complete seven (7) courses comprise a balanced program covering the major areas of interest to the participant.

In most cases, this instructional phase is spread over three or more years. This is generally not the only education the participant obtains during this period. Many participants also pursue formal college or university degree programs, attend engineering society seminars or pursue other self improvement methods such as keeping current with the latest advances in the technology by reading technical society and trade publications.

**Thesis** After successfully completing the basic Specialist Diploma requirements, the participant prepares a Thesis on a practical activity, directly related to the subject area studied and personally accomplished by the participant. This Thesis is submitted to TTI for review and evaluation. During the period leading up to the completion of the experience and training phases of the program, the participant will select the appropriate project and begin to keep relevant notes, results, photographs etc. as basic material for the Thesis. Please note that participants should not select for their Thesis either commercial or defense related activities which may be considered sensitive or secret.

The format of the Thesis is prescribed and includes:

Objective of Activity, Description of Activity, Date of Activity, Location, Equipment used, Standards, Specifications, Procedures, Results and Conclusions.

Individuals wishing to earn two or more specialist Diplomas will be required to complete a separate thesis for each Diploma. Candidates for multiple Diplomas are urged to contact TTI to discuss course requirements.

**Master Specialist** For individuals who want additional training, TTI has developed the Master Environmental Specialist Diploma program. This program prepares the participant for more senior and responsible technical positions. The requirements are as follows:

- Successful completion and award of a Specialist Diploma
- Successful completion of five (5) additional courses that have not been applied in a previous Diploma.
- Both of the following:
  - a. A critique of the thesis previously submitted.
  - b. A thesis on realistic and practical ideals for improvement in technical management techniques.

The Master Specialist Critique should evaluate in some detail the procedures, requirements, results and conclusion of the previous work, based on additional knowledge and experience obtained by further study and participation in TTI's Diploma program.

**General** Individuals may apply for entrance to a Diploma program at any time via a letter of application addressed to TTI. When all the requirements have been met, participants may apply to TTI for evaluation of their individual program and issuance of the Diploma.

TTi will review the applicant's experience, course work and thesis prior to the award of the Diploma. TTI does not endorse the actual capabilities of any individual awarded a TTI Diploma. TTI certifies only that, to the best of its knowledge, the recipient has completed the conditions specified in the program.

Participating in and successfully completing a TTI Diploma program indicates that the individual has been actively involved in a structured, continuing education program over an extended period of time. These programs are designed to help individuals to maintain and improve their skills, to stay abreast of today's technology and to prepare for advancement in their careers.

# Technology Training Inc. — Diploma Program Courses

## Environmental Engineering Specialist Diploma (EES)

116*	Fundamentals of Vibration for Test Applications*
130	Metrology Concepts
163	Instrumentation for Test and Measurement
230	Climatic Test Techniques
425	Environmental Testing Procedures
450	Environmental Test Specifications
451	Understanding MIL-STD-810G

## Dynamic Test Specialist Diploma (DTS)

104	Electronics for Non Electronic Engineers
116*	Fundamentals of Vibration for Test Applications*
142	Mechanical Shock Techniques
163	Instrumentation for Test and Measurement
194/196	Digital Data Acquisition/ Vibration and Shock Test Control Techniques
157	Mechanical Design for Product Reliability/ Fixture Design for Vibration and Shock Testing
450	Environmental Test Specifications

## Climatic Test Specialist Diploma (CTS)

130	Metrology Concepts
163	Instrumentation for Test and Measurement
230	Climatic Test Techniques
240	Accelerated Testing: ESS, HALT and HASS
425	Environmental Testing Procedures
450	Environmental Test Specifications
451	Understanding MIL-STD-810G

## Data Acquisition & Analysis Specialist Diploma (DAS)

161	Grounding and Shielding Techniques for EMI/EMC/ESD
164	Instrumentation for Electrical Test and Measurement
166	Applied Measurements
171	Telemetry Systems
196	Digital Data Acquisition
197	Digital Signal Processing and Data Analysis
199	DSP: Digital Signal Processing

## Electronic Design Specialist Diploma (EDS)

104/105	Electronics for Non EEs/Digital Electronics
130	Metrology Concepts
161	Grounding and Shielding for EMI, EMC and ESD
162	Test Procedures for EMI/EMC/ESD
166/164	Applied Measurements for Electrical Instrumentation
310	Mechanical Design for Product Reliability
471	Cooling Methods for Electronics Design

\*Course 116/117 “Fundamentals of Vibration for Test and Design Applications” may be substituted for course 116.

## Electronic Telecommunications Specialist Diploma (ETS)

104/105	Electronics for Non EEs/Digital Electronics
161	Grounding and Shielding Techniques for EMI/EMC/ESD
162	Test Procedures for EMI/EMC/ESD
164	Instrumentation for Electrical Test and Measurement
166	Applied Measurements
171	Telemetry Systems
199	DSP: Digital Signal Processing

## Instrumentation Test Specialist Diploma (ITS)

104	Electronics for Non Electronic Engineers
130	Metrology Concepts
161	Grounding and Shielding for EMI, EMC and ESD
162	Test Procedures for EMI/EMC/ESD
164	Instrumentation for Electrical Test and Measurement
166	Applied Measurements
199	DSP: Digital Signal Processing

## Mechanical Design Specialist Diploma (MDS)

104/105	Electronics for Non EEs/Digital Electronics
116/117	Fundamentals of Vibration for Test & Design
142/195	Mechanical Shock and Modal Test Techniques
166/164	Applied Measurements for Electrical Instrumentation
230	Climatic Test Techniques
240	Accelerated Testing: ESS, HALT and HASS
310	Mechanical Design for Product Reliability

## Metrology/Calibration Specialist Diploma (MCS)

104	Electronics for Non Electronic Engineers
130	Metrology Concepts
132/435	Measurement Uncertainty/Engineering Statistics
134	Calibration Laboratory Procedures
161	Grounding and Shielding Techniques for EMI/EMC/ESD
164	Instrumentation for Electrical Test and Measurement
166	Applied Measurements

## Required for all Diplomas:

110	Thesis Presentation and Review
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## Optional Courses:

Optional Courses that are not included in the required courses may be valuable for your diploma.

For a complete list of available courses, visit

[www.ttiedu.com/course\\_list](http://www.ttiedu.com/course_list)

## Master Environmental Specialist Diploma (MES)

Prior completion of a TTi specialist Diploma and five (5) courses that have not been applied in the previous Diploma. Plus, both of the following:

- A critique of the thesis previously submitted
- A thesis on realistic and practical ideas for improvement in technical management techniques.

