

Accredited Medical Gas Technician (AMGT)

1. Overview of the Programme

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The 'Accredited Medical Gas Technician (AMGT)' is a highly flexible program that offers excellent opportunities for those who are working in Medical Gas Pipeline Systems (MGPS) or related services, to acquire an international professional certification. The AMGT is a custom-designed remote-learning program exclusively suitable for international students and professionals. Entry/registration to the programme is open throughout the year. The curriculum comprises three courses of 70 credit points each that cumulates to a total of 210 credit points. The medium of instruction is English. To be eligible for the award of the certification, a student should attend the final assessment and secure minimum credit point requirements, within one year from the date of enrolment.

2. Eligibility

The applicant should have evidenced an experience of at least one year in the installation and maintenance of MGPS or related services. The applicant should have a level of professional working proficiency in English.

3. Program Objective

To produce a well-motivated taskforce of accredited medical gas pipeline system professionals who can enhance the quality of global healthcare delivery through their ethical practice

4. Learning Outcomes

On successful completion of this course, participants will be able to:

- i) Be proficient in the theory of testing medical gas pipeline systems to comply with the job specification, regulatory authorities' requirements, standards and Codes of Practice, and details recorded in the format required
- ii) Check configuration of medical gas pipeline system for compliance with plans or specifications, standards and authorities' requirements
- iii) Display skills to measure, locate, set out and install medical gas pipelines and terminal units including brazing techniques
- iv) Apply safety and quality assurance requirements and demonstrate effective work methods relevant to medical gas pipeline installations
- v) Perform design calculations, costing and estimation associated with medical gas pipeline systems

5. Accreditation

A student who scores minimum credit point requirements will be certified as 'Accredited Medical Gas Technician' by the Med Institute of Medical Gas Technology (MIMGT), Kochi, Kerala – 682 308, India. The MIMGT is a training partner of Health Sector Skill Council

(HSSC), Government of India. The MIMGT is a government-recognized institute that offers basic, intermediate, and advanced level certificate courses in MGPS, in India.

6. Curriculum (Three courses of 70 credit points each that cumulates to a total of 210 credit points)

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i) Principle and operation of MGPS (70 credit points)

Types of medical gas used in hospitals: Medical Air - Oxygen - Carbon Dioxide – Nitrogen - Nitrous Oxide, Different parts of MGPS: Supply Pipeline or Gas Service Specific Trunk Pipeline - Feeder Pipeline - Distribution Pipeline - Drop pipe, Air compressors, Vacuum pumps, AGSS / WAGD plant system (gas scavenging system), Manifold Systems, Oil & Moisture separator, Filtration systems, Ceiling Pendant Arms, Air Dryer- refrigerant or Desiccant, Medical Gas Source Equipment, Manifold Rooms and Equipment, Medical Gas Alarm Systems, Terminal Units/Patient Room Gas Connections/Medical Gas Outlets, Medical Grade Copper Pipes - Dimensional specifications of pipes, Pigtails and Connectors, Adapters, Zonal Valve Box, Main Line Valve (Source Shut Off Valve), Branch Valves including Riser Valves, Line Valves Assembly (LVA), Zone Valves, Area Valve Service Unit Modules (AVSU), Oxygen Concentrators, Flow Meters, Pressure Gauges and switches, Gas purity meters, Integrated Flow Meter Outlet, Ward Vacuum Unit.

ii) Design & installation of MGPS (70 credit points)

Planning and costing of MGPS installations, Installation of medical gas and vacuum systems covered by the ASSE Series 6000 Standard, Power supply requirements of MGPS, Quality control - Selection of MGPS accessories - ASTM B819-19 Standard Specification for Seamless Copper Tube for Medical Gas Systems, Standard procedures for connecting pipes- Compliance with standards and risk assessment, Breakdown maintenance, Inspection and preventive maintenance of MGPS, Safety considerations and electrical isolation during maintenance, Changing of bacterial filters, Detection of leakages and management, Emergency management – Planning and execution of mock drills, Case studies of accidents caused by faults in MGPS, Commissioning of MGPS.

iii) MGPS standards & protocols (70 credit points)

ISO 7396-1:2016 Medical gas pipeline systems - Part 1: Pipeline systems for compressed medical gases and vacuum, ISO 80601-2-69:2020 Medical electrical equipment - Part 2-69: Particular requirements for the basic safety and essential performance of oxygen concentrator equipment, Facility Management and Safety standard FMS. 6 - Programme for medical gases, vacuum and compressed air in NABH Standards update 2020 fifth edition, colour coding used in the medical gas pipeline systems, Health Technical Memorandum 02-01, National Fire Protection Association 99 (US), CAN/CSA Z7396.1-17 Medical gas pipeline systems - Part 1: Pipelines for medical gases, medical vacuum, medical support gases, and anaesthetic gas scavenging systems (Canada), Facility Guidelines Institute guideline for MGPS.

7. Mode of Delivery

The MIMGT uses a self-paced learning method, i.e., it is not necessary to be online on a determined schedule. This model is extremely flexible, allowing you to study without compromising existing work and family commitments. Course materials, handouts and recorded video lectures will be made available to the students as soon as the course starts, and the student can go through them at their own speed. Our distance learning model combines teaching through virtual classroom, tutorial support and online self-study. The students are connected and in constant communication through discussion forums led by course tutors. This will help them solve doubts by exchanging knowledge and acquiring greater skills when it comes to passing each module.

8. Assessment

The assessment involves continuous evaluation and a final descriptive examination. The final descriptive examination shall be conducted online under the virtual supervision of course instructors and external examination invigilators. The descriptive examination shall cover all three courses. Total weightage of the descriptive examination is 150 points. Duration of the descriptive examination shall be three hours. There will be five questions of 10 points each, that cumulates to 50 points from each course. The student should score a point of 30/50 individually for all three courses and secure a cumulative score of 100/150, from the final descriptive examination.

As a part of the continuous assessment, one tutorial work and one assignment will be given to the students per each course. There shall be totally three tutorials and three assignments. Each assignment and tutorial carries 5 points. The student should score a minimum of 2/5 points from each assignment and tutorial and a cumulative score of 15/30 from 3 assignments and 3 tutorial works. Apart from the descriptive examination, there shall be an online quiz that comprises 30 Multiple Choice Questions (MCQs). The quiz has a weightage of 30 points and the student should score 15/30 for the quiz. A successful student eligible for certification should secure 130/210 points cumulatively and 100/150 points for the descriptive examination, 15/30 points for the quiz and 15/30 points for the continuous assessment, individually.

9. Steps for Enrolling & Program Fee

- i) Download your application form and fill it in.
- ii) Email your application form to info@mimgteducation.com, mimgtindia@gmail.com along with copy of your passport or national ID, and proof of experience in MGPS or bonafide certificate from the current organization or a statement of purpose self-describing the competencies/skills related to the MGPS.
- iii) Proceed with the payment to formalise your enrolment. The net fee of the program is 7000 \$ (US Dollars).

For any assistance, please feel free to contact us at info@mimgteducation.com, mimgtindia@gmail.com or on WhatsApp number (+91) +91 8848527909.