

MIPET

Teacher Guidelines

10th Edition
2019



Scuola Politecnica
Università degli Studi di Genova



DIME



CONFINDUSTRIA
GENOVA



Ordine Ingegneri Genova



ASSOCIAZIONE NAZIONALE
INGEGNERI E TECNICI INDUSTRIALI



Mastering Industrial Plant Engineering and Technologies is an initiative promoted by a joint Team of Academic Institutions, Industries and Associations. MIPET includes an International Master focused on these Issues. The MIPET Excellence is based on the strong cooperation among Academic and Technical Experts coming from Prestigious Universities and Leading Companies operating in this area with special attention to Energy, Iron & Steel, EPC, Large Industrial Plants and Process Industries, Oil & Gas



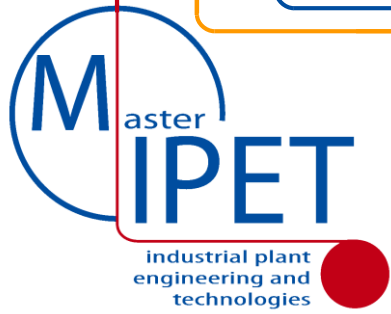
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MIPET President

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Academia, Institutions & Industries



PARTNER UNIVERSITIES & INSTITUTIONS



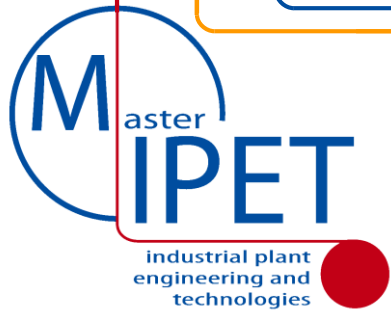
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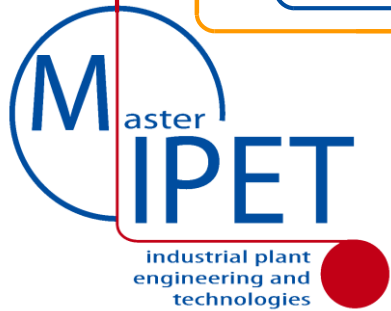




MIPET General Guidelines for Teachers 1/2

- The specific theme proposed by the teacher need to be integrated in the General Program of the MIPET (please check the program on www.itim.unige.it/mipet)
- The specific topic should be related to Industrial Plant Engineering & Technologies by using examples and cases for demonstrating the concepts related to this framework.
- The importance of understanding the reasoning processes used to accomplish the following must be continually emphasized:
- Solve Real Industrial Plant Problems
- Communicate ideas and concepts in verbal and written form related to Industrial Plant Engineering & Technologies
- Connect concepts and disciplines (i.e. Mechanical, Electrical, Chemical Engineering & Automation) and
- Connect the Theory on the Lecture to realistic examples or real case studies related to Industrial Plants.
- Teachers will rely heavily on cooperative learning to promote active student involvement. Diverse instructional techniques, materials, resources, and technology will be used at all levels to promote the concepts and applications of mathematics.
- **Prepare a Version of your Presentation to be available for students in their Web Repository, so clean it up from any sensible, confidential or classified data or info**

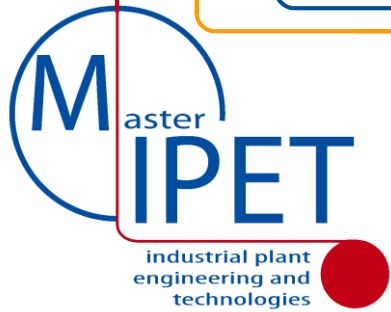




MIPET General Guidelines for Teachers 2/2

- The lectures and the interaction with the students is in English (excepted Language Courses)
- All the Material should be provided just in English (presentations, summaries, exercise)
- The specific theme proposed by the teacher need to be integrated in the General Program of the MIPET (please check the program on www.itim.unige.it/mipet)
- The specific topic should be related to Industrial Plant Engineering & Technologies by using examples and cases for demonstrating the concepts related to this framework.
- The importance of understanding the reasoning processes used to accomplish the following must be continually emphasized:
 - Solve Real Industrial Plant Problems
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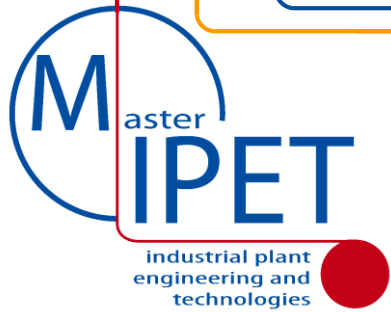


MIPET Teachers: Modus Operandi

To provide effective Lectures on Industrial Plant Engineering & Technologies, teachers should:

- Develop an environment that encourages students to learn through interaction, team working, problem solving, risk-taking and exploration
- Provide opportunities for individual and group experiences
- Solicit oral presentations and communications from the class as a major component of the lecture
- Promote and facilitate discussions
- Structure discussions, questions to challenge student thinking through analyzing, synthesizing, and evaluating
- Structure lessons that require students to think about their own thinking and the thinking of others
- Promote problem solving, problem formation, and reasoning as an integral part of the MIPET curriculum
- Model problem solving behaviors
- Connect Lecture Contents to other Elements related to Industrial Plants as well as as to everyday life
- Design lessons that progress from theory fundamentals to concrete real case studies
- Structure lessons that encourage students to experience and test their knowledge on examples
- Monitor groups and individuals to encourage and facilitate student participation
- Provide opportunities for students to become immersed in problem solving activities and encourage students to be persistent in problem solving
- Derive theory and models from real cases related to Industrial Plants and provide opportunities for applications of acquired skills
- Utilize student portfolios, journals, interviews, and observations of group work for assessment,
- Utilize extensively references (i.e. books, papers, links) and materials (i.e. files, presentation, tutorials) to assess the background knowledge and to leverage the class in relation to your lecture requirements



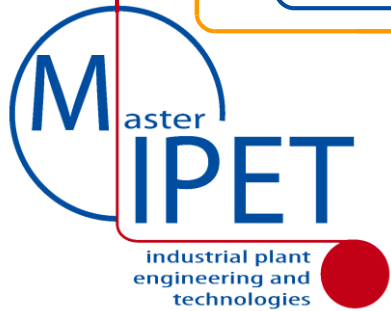


MIPET Teachers and Active Learning

To promote active learning, teachers should ensure that students will:

- Become critical on the values and numbers related to problems in Industrial Plant Engineering and Technologies
- Identify critical variable and issues related to industrial problems Participate in cooperative or collaborative learning experiences
- Develop and use a variety of strategies that facilitate problem solving,
- Use tools, models, simulators and manipulative materials appropriate for their understanding
- Use their laptop and calculators to solve problems
- Have possibility to complete on their own computers demonstrations, individual and group works
- Integrate Concepts into Industrial Plant framework
- Participate in projects and team works
- Being able to Communicate effectively in Technical Term in oral and written form
- Participate in study trips and lab visit whenever appropriate
- Develop habits of persistence and tenacity in problem solving situations
- Apply reasoning skills to problem solving situations

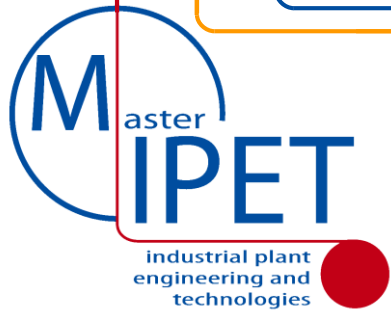




MIPET Teacher Roadmap

- 1) Acquire the Info on his own Lecture
- 2) Check with the Module Chair and the MIPET Scientific Board about his own lecture contents (i.e. in order to avoid repetitions); info on MIPET Scientific Board and Module Chairs are on MIPET web site
- 3) Check date and time of the lecture and give confirmation to MIPET Tutor (mipet@itim.unige.it) and Module Chair about your speech; please pay attention to respect time constraints
- 4) Check Classroom composition on MIPET Web site and/or by asking to the MIPET Tutor
- 5) Check with the MIPET tutor about the availability of resources (i.e. wi-fi, individual laptop, beam projector, characteristics of rooms) and all the administrative issues, if applicable (i.e. formal assignment)
- 6) Prepare a presentation in English complaint with the MIPET Template (Power Point 2003 format, here proposed) and provide it to the MIPET Tutor (mipet@itim.unige.it) before the lecture
- 7) Preprint or send in advance to the tutor all the material to be distributed to students in hardcopy
- 8) Arrive on site if possible at least 15 minutes before the lecture to check all the equipment
- 9) Deliver your lecture in English paying attention to
- 10) Collect some quantitative evaluation of the Class (0-30 max) to be delivered to the MIPET Tutor and Module Chair
- 11) At the end of the Lecture you are invited to require round table comments from Each Student in English
- 12) Please ask the MIPET tutor to receive the Quality Report related to your lecture provided by Students

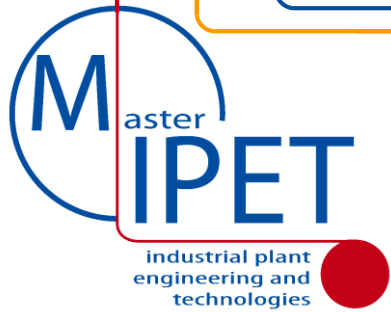




MIPET Teacher Suggestions

You are encouraged to:

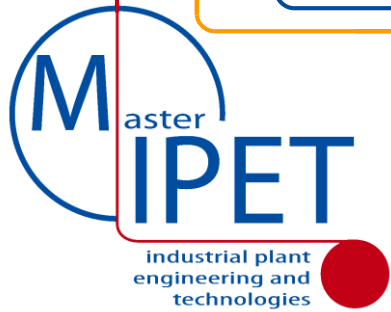
- A) Program, execute and evaluate the students on your subject at the end by some test; please express the ranking in numbers (0-30 max) and deliver to the MIPET Tutor and Module Chair
- B) Develop round table comments from each Student during and after the Lecture
- C) Emphasize the interaction with Students by questions, examples and case studies
- D) Consider to use:
 - Frontal Lectures
 - Common experiences
 - RPG (Role Play Games)
 - Interactive blended education
 - Visit to Industrial plants and Offices
 - Case study
 - Exercises
 - Simulations
 - Use of models and software tools
 - Visits to R&D Lab
- E) Quality Control is carried out by MIPET organization, therefore your comments will be welcome, so please provide a short feedback on class to MIPET Tutor and Module Chair



MIPET Presentation Guidelines

- Presentation should be in English
- Introduction of your Company/Institution should be condensed during your speech to not more than 10 minutes; additional info should be included in the presentation to be distributed
- Please be sure to avoid commercial contents and advertising
- Please note that a specific version of your presentation should be made available to students, so be sure to prepare even a version free from any classification or disclosure concern to be provided to the tutor despite what you plan to project the class
- Please be sure to include your references (i.e. email address and affiliation)
- Please be sure to include specific technical and scientific references (i.e. books, papers, URL)
- Please be sure to clear your presentation from any confidential and/or classified info





Guidelines for MIPET Teachers

In this presentation the General Guidelines for Teachers are proposed, please be sure to check properly:

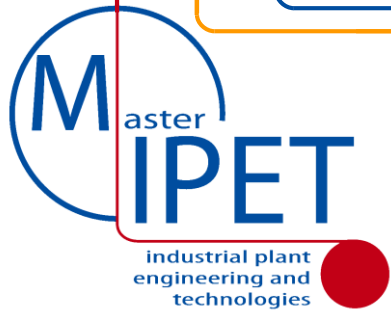
This Presentation with Guidelines

MIPET_CAL last version including the update schedule of the Master Program (ask mipet@itim.unige.it if you are not sure to have last version)

In addition we recommend to read the MIPET Executive Summary available on www.itim.unige.it/mipet and to check the general summary

For any other request please check the web site (www.itim.unige.it/mipet) or contact mipet@itim.unige.it / mipet@simulationteam.com





WHAT IS

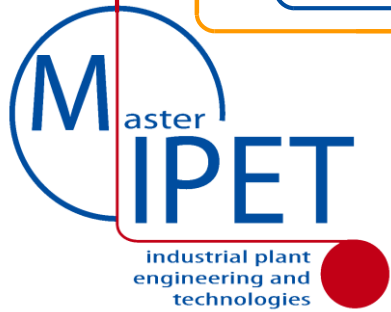
The International Master in Industrial Plant Engineering and Technologies (MIPET) is a one-year degree program organized in Genoa University focusing on preparing new generations of top quality engineers to be dedicated to process and plant engineering, projects and activities within Industrial Plants, EPC and construction companies.

The Master Program is directed by the DIME Engineering Department and Polytechnic School in close cooperation with a number of industrial partners which represent some of the best reputed global players in the Engineering and Construction market.

The main goal of MIPET is to meet the requirements of such industrial partners in terms of professional skills and technological competencies for young leading engineers.

As a matter of fact, this project it is part of a larger program devoted to exploit the synergy among Genoa University Engineering Faculty and top level Engineering & Construction Companies and to pursue the Innovation and Excellence in processes and products through a continuous enhancement of their competitive assets: technologies, human capital, know how, models and skills.





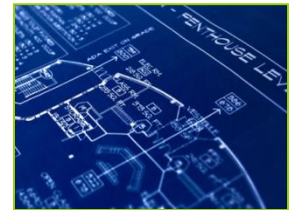
MIPET OUTCOME

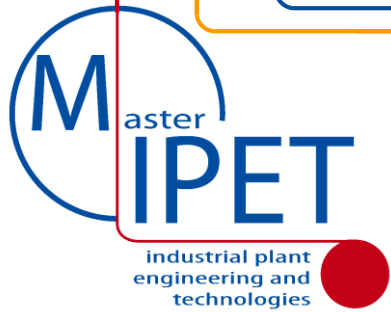
This Master is devoted to create System and Process Engineers, Technical Coordinators operating effectively in Project Teams in Global Engineering and Construction. MIPET provides a deeper insight in Industrial Plants and enables the students to get a complete overview of a project with all its technical aspects along each project stage: Proposal, Basic and Detailed Engineering, Procurement, Manufacturing, Erection, Commissioning and Service. MIPET graduates acquire capabilities in all the critical areas (mechanical, materials, processes and components, electrical, instrumentation & automation, cost estimate, project management, risk & safety, quality assurance) combined with a specific training in specific industrial sectors (i.e. Power Equipment, Iron & Steel) as well as with Internship Experiences in Companies.



MIPET CLASS

- Young Engineers with strong potential and technical background
- International Excellent Students of Engineering Departments from all around the world
- Engineers with experience in Plant Engineering from world-wide
- Engineers already employed in Engineering and Construction Companies who are interested in attending specific Operative Modules of the MIPET Master Program such as Project Management, Constructions, Standards and Regulations, Safety, Security & Risks





MIPET ADDED VALUE

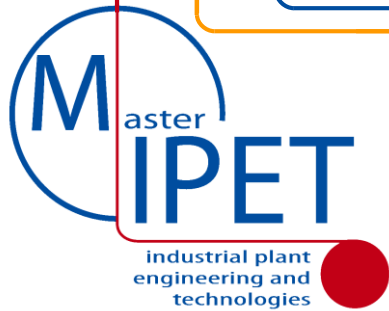
BENEFITS FOR YOUNG ENGINEERS

- High Profile Professional Education devoted to provide High Value Skills in Industrial Plant Engineering and Technologies
- Continuous Interaction with Top Quality Experts from Academia, Institutions and leading Engineering & Construction Companies.
- Very Qualified Selection and Evaluation Processes that guarantee the Master Attendees as highly qualified resources for top companies.
- Opportunities to complete experiences On Field on complex Industrial Plant projects and to work on an International Framework
- Contacts and visibility to major E&C* Companies and EPC** Contractors (EPC) operating at International and National level.
- Developing Human Potential of the attendees by training and improving their Individual and Team Working capabilities.



* E&C Engineering & Contracting
** EPC Engineering, Procurement & Construction





INVESTEMENTS & SELECTION



- The Master is based on MIPET agreement among Genoa University the Sponsoring Companies and Genoa University. In fact MIPET Industrial Sponsors financed extensively the past editions (from 80% till 100%), confirming the strong interest in this initiative and its ROI*
- To attend the Master, each applicant is requested to pass a selection process based on Interview (Live or by Phone/Skype) and Qualification (i.e. Curriculum Vitae).
- The MIPET Selection combines Technicians, Human Resource, Experts from Academia and Industry to identify best candidates (e.g. 120 applications, 60 selected interviews, 15 selected master attendees)
- The MIPET Tuition Fee is 7'500.00 Euro, but a full coverage of tuition fee is available for best candidate and many scholarships & grants are available for good students
- In all past MIPET editions each student received at least a 6'000.00 Euro grant in advance from Companies and/or Governmental Institutions and have to pay only 1'500.00 Euro for being enrolled at selection procedure completion (no extra payment required)
- In previous MIPET Editions, the Students successfully achieving the Master Degree and hired by MIPET Sponsors received a full refund (100%) of Tuition Fees
- MIPET is establishing agreements with major Universities around the World for promoting this education initiative as well as the cooperation on Industrial Plant Engineering & Technologies

* ROI Return of Investments

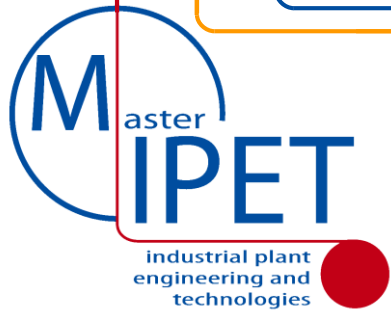


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GRANTS & PLACEMENT

- The job placement is very good both in terms of numbers and quality; placement statistics confirm that more than 80% of students from previous Editions were hired by leading industries and major companies operating in industrial sector after graduation.
- All MIPET Sponsor Companies are interested and committed to evaluate the best MIPET students for job positions and, in case of selection, the Sponsors will hire these people and recognize them the efforts for attending MIPET, at least, by refunding the full tuition fee including the 1st Payment 1'500.00 Euro
- Master Students and Companies have the opportunities to know each other during the Internship & Project Work improving professional Curriculum and placement opportunities
- MIPET organizes periodic group and individual meetings between Sponsor Companies and MIPET Students, as well as orientation meetings, in order to finalize internship and cooperation

agreement

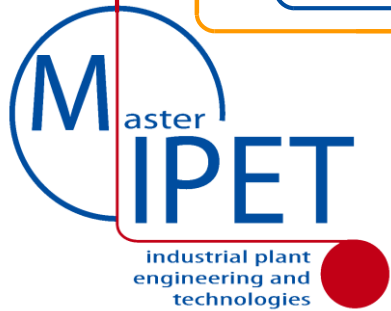


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MIPET EDUCATIONAL ACTIVITIES



The Master in Industrial Plants includes:

- Basic Modules for Industrial Plant Engineering and Construction, including Process Engineering, Plant Automation, Materials & Technologies, etc.
- Operative Modules on Critical Issues for Industrial Plants (e.g. Engineering Standards and Regulations, Project Management, Quality Assurance etc.)
- Thematic Modules on Innovative Solution for Specific Plant Sectors (e.g. Power, Iron and Steel, Water Treatment, Sustainability)
- Company Internships devoted to acquire on-field experience, including the development of the Project Work related to a Real Case
- Visits to Industrial Plants and Engineering, Research & Development Centers and Labs.
- Tests for certifying individual skills and capabilities acquired by the attendees on specific topics at the end of each single module.
- Professional Modules, integrated in the Master Program, but open for external attendees as stand alone courses. These modules include individual and team Projects Works to be carried out in competition/cooperation interacting with experts.



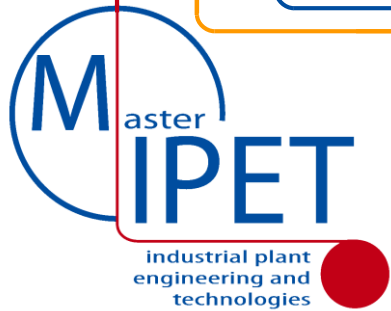
OPERATIVE MODULES

Operative Modules are compact and specific courses (1-5 days), which are an integral part of the Master and at the same time are open and offered to external companies, technical employees or professionals interested in these subjects. MIPET Sponsors get 2 free seats in each Operative Module and are entitled to get discounts and opportunities for further registrations into Operative and Thematic Modules.

These modules are carried out jointly by the Industry and the Academy and are characterized by strong interaction between students and teachers through simulations and Role Play Games performed on specific case studies. Among the others the following modules are foreseen:

- **Engineering Standards and Regulations**
- **Construction**
- **Project Management**
- **Safety & Risks**
- **Innovative Technologies, Techniques and Methodologies for Industrial Plants**





EDUCATIONAL PATH

Educational Framework



Basic Modules
80 hours

Operative Modules
180 hours

Thematic Modules
160 hours

Internship & PW
480 hours

420 hours in Classroom and Labs

480 hours as Internship and Project Work (PW)

120 hours in International Seminars, Language, Orientation & Other Courses

Int.Seminars 30 hours

Languages 70 hours

Orientation 20 hours



The Education framework of MIPET is focusing on industrial plant engineering and technologies by adopting different methods such as lectures, case study, exercises, common experiences, RPG (Role Play Games), simulations, use of models and software tools, interactive blended education (i.e. clickers), industrial plant guided visits and R&D* Lab experiences

* R&D Research & Development



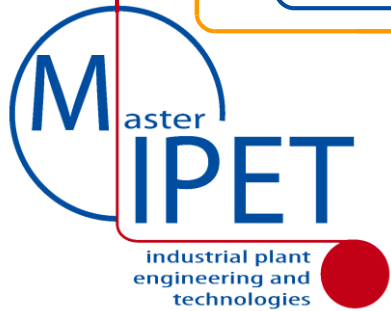
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MODULES



Educational Module Topics

Basic Modules 80 hours

Fundamental Concepts related to Industrial Plants Projects

Fundamentals of Financial Analysis for Industrial Plants

Processes Engineering and Components in Industrial Plants

Design and Engineering for Industrial Plant Systems

Material Technology, Mechanical Design and Industrial Plants

Automation in Industrial Plants

Software Systems for Supporting Industrial Plant Design & Evaluation



Operative Modules 180 hours

Standards & Regulations

Project Management

Construction

Safety & Risks

R&D in Industrial Plants

M&S in Industrial Plants

Comm. & Team Building

MIPET International Seminars
~40 hours



Thematic Modules 160 hours

Power Plants

Iron & Steel Plants

Plants for Environment

Processes & Machines in Industrial Plants

Desalination & Water Treatments

Environment & Sustainability for Industrial Plant Engineering

MIPET Other Modules ~90 hours
English, Chinese, Italian, Spanish, Orientation



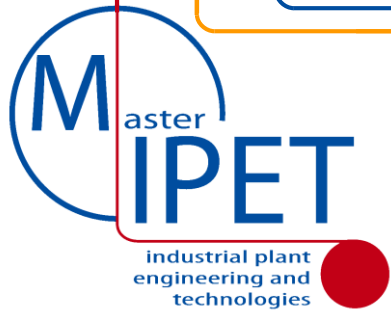
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Engineering Standards & Regulations



Operative Module of MIPET



Industrial Plant Engineering & Technologies

Objectives

Engineering Standards & Regulations is devoted to organically present the existing and future norms to be adopted for the design and construction of Industrial plants; the course provides knowledge for supporting problem solving for companies facing for the first time regulations and codes in National and International industrial plant projects

Course Attendees

Engineering Standards & Regulations is designed for young engineers, specialists and professionals active in Industrial Plants enabling them to make use of the state-of-the-art norms, codes and standards for the design of equipment and systems.

Structure and Approach

This module is organized as a 36 hours course to be completed in 5 days by interactive sessions with experts coming from Industry and R&D. The approach includes lecturing, case studies, exercises, experiences, RPG, competitive and cooperative simulations



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Safety & Risk



Operative Module of MIPET



Industrial Plant Engineering & Technologies

Objectives

Safety and Risk Module is devoted to present methodologies, techniques and technologies related to safety and risk evaluation during design, construction and operation of an Industrial Plant.



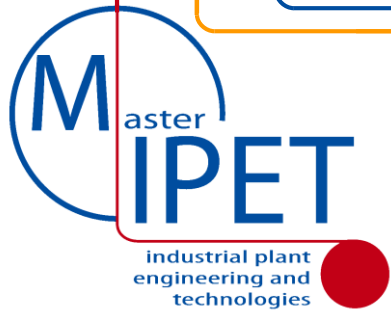
Course Attendees

Safety and Risk Module is designed for young engineers, technicians and professionals active in the engineering of Industrial Plants enabling them to deal with safety rules and risk analysis according to the state-of-the-art legislation.

Structure and Approach

This module is organized as a 36 hours course to be completed in 5 days by interactive sessions with experts coming from Industry and R&D. The approach includes lecturing, case studies, exercises, experiences, RPG, competitive and cooperative simulations





MIPET Operative Modules

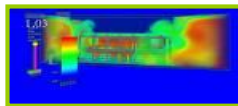


Standards & Regulations

Safety & Risk



- Large Industrial Plants: an Overview on Standards, Regulations and Administration Authorization Processes along Project Life Cycle
- Case Study on Impact of International Regulations on Industrial Plants with Special Attention to Directive 2006/42/CE, ATEX, PED.
- Quality Assurance and Control in Industrial Plants
- Quality, Safety and Environment Integrated Management in term of standards and regulations
- Environmental Impact Evaluation
- Introduction on Fire Safety and Explosion Risk for Industrial Plants. Risk Analysis for Fires and Explosions: methods, documents and classification
- Safety Concept. Innovative Engineering Solutions for Fire and Explosions in Industrial Plants. Combination of Explosion/Fire Risks
- Fire Safety and Explosion Simulation
- Actions: organization, prevention, protection and mitigation solutions
- EXPLOSAD (Experience on Process Plant Safety Design): Case Study based on Simulation applied to fire and explosion protection applied to an industrial plant



- General Safety concepts related to Industrial Plants Life Cycle (accident pyramid, cause effect analysis, risk analysis, training and information, BBS, main indexes and matrixes, organization)
- Specific safety characteristics on Process Plants
- General Risks on Industrial Plants
- Methodologies and behavioral aspects related to safety and risks to be considered in plant design and construction
- Behavioral aspects influence on accident frequency
- Safety Design
- Quantitative and Qualitative methods to support risk evaluation and management
- Introduction to integrated safety and risk evaluation systems
- Case Study on Safety Integrated Solutions
- Introduction to SBRA Methodology
- Exercise: application of SBRA (Scenario Based Risk Assessment) Methodology on a Construction Yard
- Case Study Resolution on the Construction and Debriefing on SBRA (Scenario Based Risk Assessment) application
- Introduction to Industrial Plant Service impact on Safety along Plant Life Cycle: Availability and indexes, Alternative Approaches, EOH, Impact of Engineering on Service and Safety, Service Inventory, Consistency and Optimization of Inspection and Revision Policies
- Service for Complex Industrial Plants

Each Operative Module includes a knowledge assessment and the attendees successfully completing each single Module receive a certificate from Genoa University. The Educational Material specific of the course is provided to each attendee

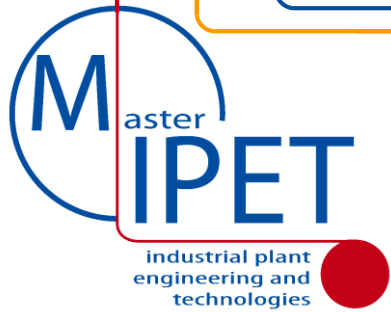


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Project Management



Operative Module of MIPET



Industrial Plant Engineering & Technologies

Objectives

Project Management Module presents critical aspects related to Industrial Plant PM and provides basic concepts and methodologies in Project Management. The course provides knowledge for facing issues in Project Organization, Risk Management, Cost and Time Management, Planning & Control, Quality, HR and Communications

Course Attendees

Project Management Module is designed for young engineers, technicians and professionals intended to operate as Project Engineers in complex Industrial Plants projects;

Structure and Approach

This module is organized as a 36 hours course to be completed in 5 days by interactive sessions with experts coming from Industry and R&D. The approach includes lecturing, case studies, exercises, experiences, RPG, competitive and cooperative simulations



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Construction



Operative Module of MIPET



Industrial Plant Engineering & Technologies

Objectives

Construction Module presents critical aspects related to Constructions in Industrial Plant and provides basic concepts and case studies as methodologies. The course provides knowledge for facing issues in Site Management, Erection Planning, Cost and Time Control, Safety and Risks during erection and commissioning.

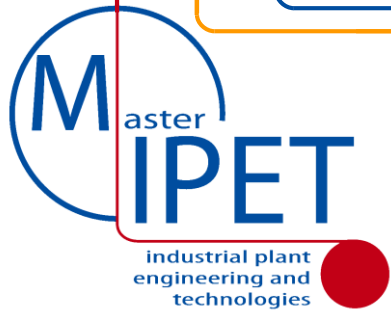
Course Attendees

Construction Module is designed for young engineers, technicians and professionals active in Industrial Plants and dealing with Construction issues, enabling them to understand and make use of the key tools for the control and the management of the construction stage of an Industrial Plant.

Structure and Approach

This module is organized as a 36 hours course to be completed in 5 days by interactive sessions with experts coming from Industry and R&D. The approach includes lecturing, case studies, exercises, experiences, RPG, competitive and cooperative simulations





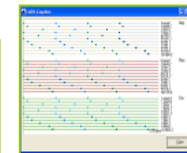
MIPET Operative Modules

Project Management

- Project Management and specific issues related to Industrial Plants
- Project Life Cycles
- Reporting & Metrics for Project Management: PMB & KPIs
- Cost and Time Management, Techniques and Methodologies for supporting planning and control
- Risk Analysis & Risk Management: Risk Source Identification, Quantification, Decisional Trees, Statistical Methods and Simulation
- Communications: Technological Solutions, Information Distribution Policies
- HR in Project Management, organizational planning, People Management
- Quality Management: methods, constraints and critical issues in Industrial Plants
- Project Management Networks and Certification Processes
- Coordination Engineering, Purchasing, Erection, Commissioning
- PM Certification, Societies and International Overview
- Role Play Game: Celebes (Cooperative Engineering Plant, Project Business Exercise and Simulation), work to be completed by coordinated teams concurrently working on a complex industrial plant under coordination of real Project Managers and operating on a distributed simulation

Construction

- Construction of Industrial Plants
- Industrial Plant Construction from Project Start, Precommissioning, Commissioning, Closing
- Case Studies on Project Logistics in National International Frameworks
- Interaction between Engineering and Purchasing
- Case Study on Engineering Purchasing interactions
- Managing Construction Projects on Site
- Case Studies on Construction Yard Management
- Planning and Control on Site Construction
- Case Study on Construction Yard Activities
- Safety on Erections, Heavy Transport and Heavy Lifting during Construction
- Babel Experience: competition between two teams each one divided between Site and Office on a Construction Project; the experience is devoted to outline the critical issues related to coordination/cooperation between engineering and constructions as well as aspects related to communication, human resource management and project documentation



Each Operative Module includes a knowledge assessment and the attendees successfully completing each single Module receive a certificate from Genoa University. The Educational Material specific of the course is provided to each attendee



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MIPET President

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Master IPET Innovation for Industrial Plant

industrial plant
engineering and
technologies



Operative Module of MIPET



Industrial Plant Engineering & Technologies



Objectives

Industrial Plant Innovation Module presents innovative methodologies, techniques, models presented by experts at international level able to guarantee a competitive advantage in Industrial Plant. The course addresses both technical and management issues in relation to different types of challenging problems in Sustainability, Oil and Gas, Smart Energy Management.

Course Attendees

Industrial Plant Innovation Module is designed for young engineers, technicians and professionals intended to being updated on new Models and Innovative Methodologies to address complex Industrial Plants projects

Structure and Approach

This modules is organized as a 36 hours course to be completed in 5 days by interactive sessions with experts coming from Industry and R&D. The approach includes lecturing, case studies, exercises, experiences, RPG, competitive and cooperative simulations



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MIPET Operative Modules

Innovation for Industrial Plants



R&D, Innovative Technologies, Techniques & Methodologies for Industrial Plants

- Research and Development for Industrial Plants
- Risk Analysis in R&D
- Opportunities in China: Innovation from Far East
- EU Project Case Study
- R&D in Industrial Plants, Patents, IPR and Competitiveness
- Smart Solutions in Industrial Plant Engineering
- Challenges for Engineering in Sustainability
- Smart Energy Management
- Smart Solutions in Industrial Plants based on innovative models
- Case Study: applying Innovative Techniques for Sustainability in Industrial Plants

Modeling & Simulation in Industrial Plants

- Simulation for Industrial Plants
- Modeling Mining in Australia
- Operational Training Simulators
- Examples: System Simulation in Iron and Steel Plants
- Models for Structural Analysis on Critical Sections of large Industrial Plants



Communication Skills & Team Building for Engineers

- Communication Skills
- Communication Channels
- Relationships
- Public Speaking
- People Management
- Team Building
- Interpersonal
- Leadership
- Lateral Thinking
- Managing Meetings and Relationships: how Young Engineers have to play



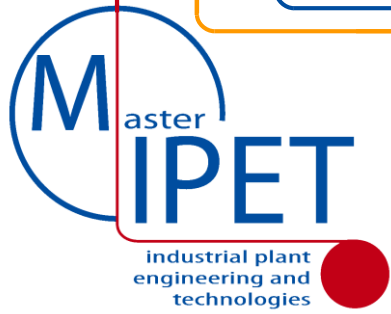
Seminars on Industrial Sectors and Emerging Opportunities

- System of Systems Engineering
- Modeling for Large Transportation Infrastructure Design
- Power Industry in Mexico and Latin America
- Process Control in Chemical Plants
- Topics and Areas for Engineers entering in Oil and Gas Industries
- Immersive Technologies for Oil & Gas Industries



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MASTER: FACULTY & LABS



The Master Teachers are an effective mix of Academic & Industrial Experts

- Genoa University Professors
- Italian Top-Quality University Faculty
- International Professors & Experts
- Top Experts and Executives from Plant Industry
- Professional Experts from Institutes and Organizations



All the MIPET Sponsor Companies have the possibility of being actively involved in Lecturing, driving Project Works, providing Case Studies, developing Class Exercises and offering Internships & Project Works.



MIPET includes experiences in up-to-date R&D Labs (e.g. Virtual Caves, Simulation, Combustion, Smart Grid) as well as visits to Industrial Plants tutored by Experts



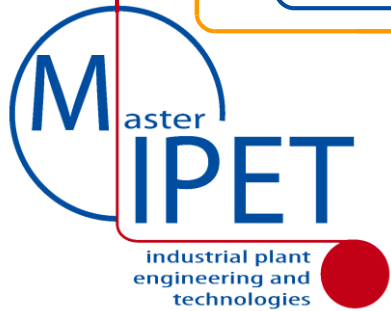
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ORGANIZATION

This Master is coordinated by a Technical Scientific Committee composed by the following members:

- **Agostino Bruzzone** (Full Professor of Industrial Plants in DIME, MIPET President)
- **Matteo Agresta** (Simulation Team - University of Genoa)
- **Giorgio Cannata** (Professor of Automation, DIST)
- **Micaela Caserza** (MAILAB - University of Genoa)
- **Marco Del Borghi** (Full Professor of Chemical Processes, DICHEP)
- **Carla Gambaro** (Professor of Technologies, DICHEP)
- **Pietro Giribone** (Full Professor Industrial Plants, DIME)
- **Aleramo Lucifredi** (Full Professor of Applied Mechanics, DIME)
- **Andrea Reverberi** (Professor of Chemical Processes, DICHEP)
- **Luca Tagliafico** (Full Professor of Thermo-Energy, DIME)
- **Angela Taramasso** (Professor of Civil Eng., DIST)
- **Flavio Tonelli** (Professor of Industrial Plants, DIME)
- **Maurizio Barabino** (ABB Italia)
- **Giovanni De Marchi** (PW Italia)
- **Alessandro Bongiovi** (ABB)
- **Ferruccio Cerruti** (ETEA)
- **Alessandro Donetti** (Danieli Centro Combustion)
- **Piergiorgio Fontana** (Consultant)
- **Enrico Gastaldo** (Prisma Impianti)
- **Felice Lombardo** (Ordine degli Ingegneri)
- **Enrico Malfa** (Ternova)
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- **Giorgio Ministrini** (Stara Glass)
- **Matteo Agresta** (Simulation Team)
- **Carlo Raggio** (Consultant)
- **Massimo Romairone** (Bombardier)
- **Stefano Sadowski** (RINA)



The Master Support Services are provided by:
– Simulation Team, MITIM, DIME, Polytechnic School

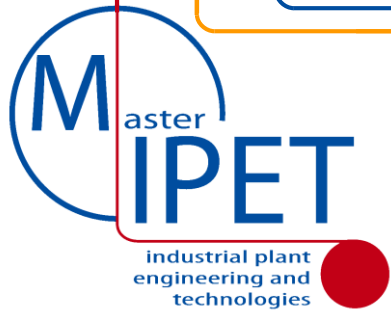


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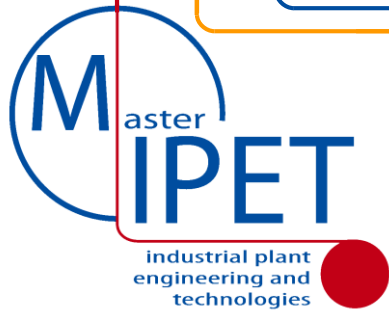
SPONSOR COMPANIES



BENEFITS FOR SPONSORS

- Active role in selection processes of Master Candidates
- Opportunity for deep evaluation and selection of Master Attendees during Selection, Educational Modules, Internship and Project Work
- Opportunities to improve the skills of Engineers & Technicians already employed
- Free Seats and Discounted Rates for registering into the Operative Modules
- Sharing High Quality Education Costs within a Specific Qualified Community
- Cultural Interaction among the different Actors of this initiative: Industrial Companies, University and Local Institutions.
- Joint University-Industry stimulation of interest and research projects on subjects related to plant engineering.
- Development of a Fertile Background in Industrial Plant, Global Engineering and Construction devoted to enhance the competitiveness of the whole system.





MIPET & INDUSTRIES



HOW A COMPANY BECOMES SPONSOR OF MIPET

- Subscribing an Agreement that includes an annual fee and the commitment to provide resources (i.e. 15 hours of experts for specific contributions to educational modules to be developed under Technical Scientific Committee Coordination).
- Contributing with its requirements and preferences respect to the characteristics of Master Attendees to be selected and on the Topics to be addressed in the Program
- Registering its employees to the Master Program or to specific Operative Modules
- Offering Internships to Master Program Students
- Providing Expertise as well as Real Case Studies



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ABB



PAUL WURTH



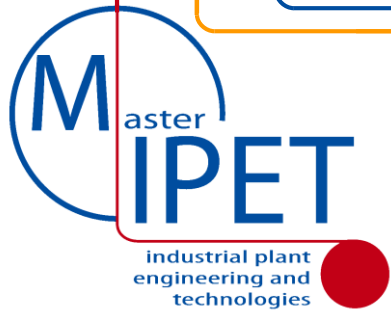
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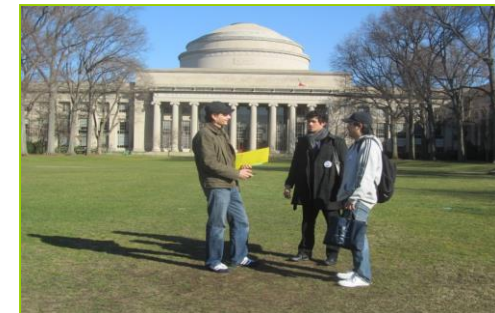


MIPET STRONGHOLDS



Excellence is the main goal of MIPET; in fact MIPET Partners are emphasizing following aspects:

- **Strong commitment of all Partners in promoting MIPET at the National and the International level.**
- **International Approach in MIPET structure by involving teachers from foreign Excellence Centers and selecting engineers from other Countries.**
- **Introducing Innovative contents, especially through the Operative Modules, related to the Plant Engineering & Technologies**



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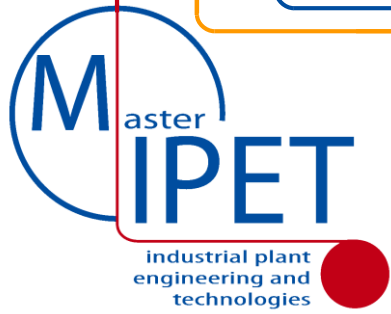
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MIPET FEATURES

The ongoing cooperation among partners and sponsors aims at continuous improvement by guarantee MIPET top quality level:

- All Lectures and Material are in English
- Language Course for Attendees (English plus other optional Courses, i.e. Chinese)
- Agreements with Offices of Leading Companies for Cooperation and Enhancement of their top level engineers by involving them in MIPET Program
- Agreements with International Schools active in Plant Engineering and Technologies for Exchanging Trainers and Students
- Development of a Plant Engineering Reference Book for MIPET
- High Involvement of Foreign Students (e.g. India, Brazil, Iran)
- Special Benefits for Sponsors (i.e. Operative & Thematic Modules)



Examples of Other Cooperating Companies & Entities



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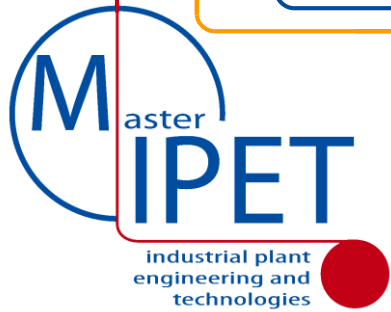


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MIPET President

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mipet@simulationteam.com



References

www.itim.unige.it/mipet
mipet@itim.unige.it



Prof. Agostino G. Bruzzone
DIME, University of Genoa
via Opera Pia 15, 16145 Genoa
Email agostino@itim.unige.it
URL www.itim.unige.it



Sponsors
ABB



Dott.ssa Marina Massei
DIME, University of Genoa
Via Cadorna, 17100 Savona, Italy
Email massei@itim.unige.it
URL www.itim.unige.it/mipet



DANIELI
CENTRO COMBUSTION



Ing. Matteo Agresta
Simulation Team, DIME
Via Opera Pia 15, 16145 Genova, Italy
Tel +39 346 8289 012 - Fax +39 019 2302 289,
Email matteo.agresta@simulationteam.com
URL www.itim.unige.it/mipet




PAUL WURTH



Prof. A.G. Bruzzone
MIPET President

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