

Nile Advanced Technology & Commerce

For the Attention of:

Training General Manager
Maintenance General Manager
Inspection General Manager

Subject: 2012 Training Courses Schedule

Dear Sirs,

NATCOM is pleased to announce to you our 2012 training agenda in Machinery Health Management. The agenda include the following courses:

Ser.	Course Title / Subject	Dates						Fees / person EGP	
		1 st half of 2012			2 nd half of 2012			Course	Exam
Start	End	Exam	Start	End	Exam				
1	Vibration Analysis, ISO / ASNT Category I , Optional Certification Mobius Institute.	29 Jan	31 Jan	01 Feb	01 Oct	03 Oct	04 Oct	3,200	2,500
2	Vibration Analysis, ISO / ASNT Category II , Optional Certification Mobius Institute.	25 March	28 March	29 March	02 Dec.	05 Dec	06 Dec	3,850	3,150
3	Vibration Analysis, ISO / ASNT Category III , Optional Certification Mobius Institute.	24 June	27 June	28 June	-----			5,150	3,650
4	Precision Alignment	12 Feb	13 Feb	N/A	26 Nov	27 Nov	N/A	1,600	N/A
5	Dynamic Balancing	14 Feb	15 Feb	N/A	28 Nov	29 Nov	N/A	1,600	N/A
6	Electric Motor Diagnostics / Motor Current Signature Analysis	-----		N/A	01 Nov	03 Nov	N/A	3,500	N/A
7	CSI2130 / MHM	-----			16 Sept	19 Sept	N/A	3,500	N/A
8	Industrial Oil Monitoring	05 March	03 May	N/A	-----			2,700	N/A
9	IR Thermography	01 May	03 May	N/A	-----			3,000	N/A
10	Vibration Diagnostics on Fluid Film Bearing Machines.	27 May	30 May	N/A	21 Oct	24 Oct	N/A	5,000	N/A

Who should attend:

1. **ISO CAT I – ASNT Level I:** Predictive Maintenance (PDM) managers, PDM engineers responsible for the execution of condition monitoring & technicians who are involved in data collection, maintenance engineers.
2. **ISO CAT II – ASNT Level II:** PDM engineers who will be involved in analysis of vibration measurements.
3. **ISO CAT III – ASNT Level III:** PDM engineers who will be responsible for implementing a condition monitoring program, setting up all details of the vibration programs, analysis, alarms, etc.
4. **Alignment Training Course:** Maintenance engineers & technicians.
5. **Balancing Training Course:** Maintenance engineers & Technicians.
6. **Oil Analysis Training Course:** PDM engineers, Managers.



المركز الرئيسي: 99 ش مصطفى النحاس - المنطقة الثامنة مدينة
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7. **CSI 2130 / MHM Training Course:** *PDM managers, PDM engineers using CSI 2120/2130 and MHM software.*
8. **Infrared Training Course:** *PDM engineers, electrical engineers, inspection engineers.*
9. **Vibration Diagnostics on Fluid Film Bearing Machines mechanical:** *PDM engineers involved in turbo machinery maintenance and monitoring.*
10. **Motor Diagnostics Training Course:** *PDM Engineers (mechanical – electrical).*

Venue: NATCOM's Asset Reliability Technology Center, 99 Mostafa El-Nahas Street, Nasr City, Cairo, Egypt.

Attendance: From 09:00 AM to 04:00 PM including 2 break outs and Lunch

Prices / Fees: Fees shown are per person per course, please call for group discounts.

Payment: Latest date for making payment is 2 weeks prior to course starting date.

General Terms & Conditions for training: Please see page 13

Reservation deadline: 3 weeks before course starting date.

For confirmed reservations, please send Fax or Email to:

Fax # (02) 227-18173

Email: training@NatcomEgypt.Com

For any further information do not hesitate to contact us at:

Tel # (02) 227-18132 / 227-29658 / 227-29659

We look forward to your active participation and to welcoming you and your designated engineers and maintenance professionals into our courses.

N A T C O M

Nader Shafik Farah

Training & Support Manager

– من يحضر هذه الدورات:

1. **ISO CAT I – ASNT Level I:** مديري برامج الصيانة التنبؤية , مهندسي الصيانة التنبؤية الملحقين جديدا في مجال برامج مراجعة حالة المعدات وايضا الفنيين المختصين لجميع قياسات الاهتزازات أو بيانات تخص حالة المعدات
2. **ISO CAT II – ASNT Level II:** مهندسي الصيانة التنبؤية الملحقين جديدا في مجال برامج مراجعة حالة المعدات وايضا الفنيين المختصين لجميع قياسات الاهتزازات أو بيانات تخص حالة المعدات .
3. **ISO CAT III – ASNT Level III:** مديري برامج أو اقسام الصيانة التنبؤية المسؤولين عن تطبيق برامج مراجعة حالة المعدات وبرامج تحليل الاهتزازات والاعمال المتعلقة بالإعدادات الخاصة لأجهزة قياس الاهتزازات وبرامج التحليل وضبط مستويات التنبيه الخاصة بكل معدة
4. **Alignment Training Course:** مهندسين الصيانة التنبؤية و فنيين
5. **Balancing Training Course** مهندسين الصيانة التنبؤية
6. **Oil Analysis Training Course:** مديريين و مهندسين الصيانة التنبؤية
7. **Ultrasonic Training Course:** مديريين و مهندسين الصيانة التنبؤية
8. **MHM Training Course** مديريين و مهندسين الصيانة التنبؤية
9. **Infrared Training Course:** مهندسين الصيانة التنبؤية ومهندسين الكهرباء
10. **Vibration Diagnostics on Fluid Film Bearing Machines mechanical** مهندسين الصيانة التنبؤية
11. **Motor Diagnostics Training Course:** مهندسين الصيانة التنبؤية (ميكانيكية وكهربائية)

– **مكان انعقاد الدورة:** المركز الفني لإدارة الأصول الصناعية – 99 شارع مصطفى النحاس المنطقة الثامنة مدينة نصر – القاهرة.

– **الحضور:** من الـ 9 صباحا حتى الـ 4 عصرا يتخلله استراحتين وغداء.

– **رسوم الاشتراك:** الرسوم المبينة هي للفرد الواحد بالدورة الواحدة، تمنح نسبة خصم للمجموعات كما هو موضح بصفحة الشروط والالتزامات

– **السداد:** قبل موعد بدء الدورة التدريبية بأسبوعين.

– **الموعد النهائي للحجز:** ثلاثة أسابيع قبل تاريخ بدء دورة.

– **الحجز:** عن طريق الفاكس علي رقم (02) 22718173

أو عن طريق البريد الالكتروني: training@NatcomEgypt.Com

– جميع الشروط و الالزامات الواردة بالملحق المرفق (صفحة 2) ملزمة و سارية.

– للاستفسارات: اتصل على الأرقام التالية 2271 8132 - 2272 9659 - 2272 9658 (02)

الشروط والالتزامات العامة - التدريب

◀ الشروط العامة والخاصة بالتسجيل في الدورات التدريبية:

- 1- آخر موعد للتسجيل باي دورة هو 3 اسابيع قبل موعد بدأ الدورة على انه يجوز ان يقبل التسجيل بعد هذا التاريخ في حالة توافر المكان بالدورة المطلوبة .
- 2- لا يعتبر الحجز مؤكد حتى ان يتم تسديد القيمة للشركة ويعتبر الحجز تليفونيا أو بالفاكس أو بالبريد الالكتروني حجرا مؤقتا حتى يتم سداد القيمة نقدا أو بشيك .
- 3- يتم منح خصم قدره 5% للحجز المبكر المعزز بالسداد قبل موعد بدء الدورة بـ 3 اسابيع .
- 4- يتم منح خصم اضافي قدره 5% للمجموعة المكونة من 3 أفراد فأكثر من نفس الشركة.
- 5- الخصم يسري علي رسوم دوره فقط (لا يسري علي رسوم الامتحان)

◀ الغاء الحجز:

أولاً- الدورات التدريبية الخاصة بمعهد Mobius :

- حيث انه يتم تسجيل المتدرب على الموقع الالكتروني لمعهد موبوس ويتم منح المتدرب حق الدخول على المواد التدريبية بمجرد التسجيل وذلك لإعطاء المتدرب الفرصة للدراسة قبل حضور الدورة لتحقيق كامل الاستفادة من الدورة فانه لا يمكن الغاء الحجز بعد التسجيل تعتبر كامل القيمة المسددة غير قابلة للرد.
- أما إذا تم الالغاء قبل تسجيل المتدرب على موقع معهد موبوس فانه يمكن الالغاء مع خصم 20% من قيمة الاشتراك كمصاريف ادارية .

ثانياً- الدورات التدريبية الأخرى (بخلاف دورات معهد موبوس):

- يمكن الغاء الحجز المؤكد ويخصم مبلغ يعادل 20% من قيمة الاشتراك كمصاريف ادارية عند رد القيمة .
 - آخر موعد لإلغاء الحجز هو اسبوع قبل تاريخ بدء الدورة وفي حالة الالغاء بعد هذا التاريخ لا يتم رد أي قيمة من المبلغ .
- عند التأكد من امكانية اتمام الدورة في موعدها وذلك بقيام الحد الأدنى من عدد المتدربين بسداد قيمة الاشتراك, نقوم بالتسجيل على موقع معهد موبوس ويتم ارسال email لكل متدرب باسم المستخدم وكلمة المرور لإتاحة الدخول على الموقع التدريبي واستخدام المواد التدريبية للتحضير للدورة لتحقيق اقصى استفادة ممكنة وكذلك يمكن للمتدرب الحضور لمقر الشركة لاستخدام المواد الخاصة به.

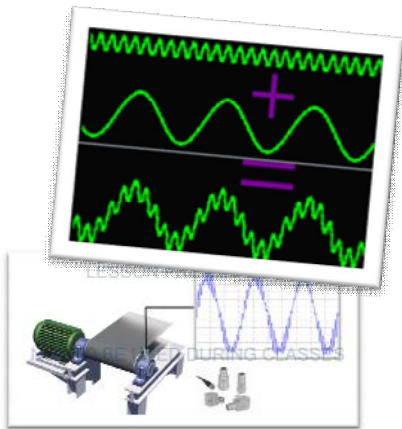
*Course Duration: 3 days + 1 day for exam.
Course Description:*

The course is the place where you learn vibration fundamentals and understanding terminology.

The course will be beneficial for managers on top management for understanding vibration reports, engineers who are newly joined to the field of condition monitoring, personnel who are related to data collection.

The course will cover the different maintenance practices in the industrial field, technologies that are used in condition monitoring, vibration principles, understanding having good data acquisition.

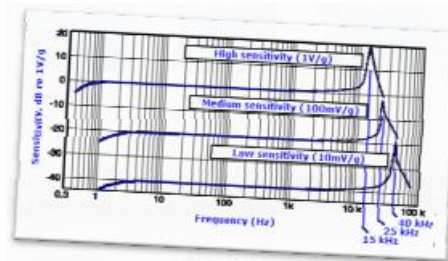
The course will also introduce for how signals are processed, diagnostics of the vibration' common faults and different types of alarm limits.



*Course Duration: 4 days + 1 day for exam.
Course Description:*

Vibration Cat II training course is the main course for engineers who will be involved in vibration data collection and analysis.

The trainee will learn more about spectra, waveforms, and signals. The course will expose to transducer types, transducers selection, transducers mountings, route data acquisition and selecting measurements points and the common measurement error.



Trainee will learn more about signal processing, resolution, sampling rate, windowing and other terms that help them to setup the analyzer correctly for having a good data measurement.

The vibration analysis techniques and methodology will be also covered in this course by which the analyst can make analysis in faster.

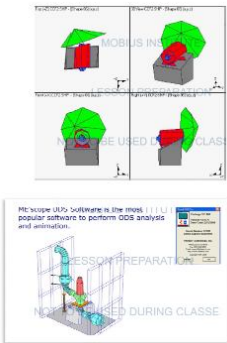
The trainee will go deeper into fault diagnostics, correction action and setting alarm limits.

Course Duration: 4 days + 1 day for exam.
Course Description:

This course will be for analysts who wish to master their domain.
The course will start with signal processing and different analysis tests (order tracking, time synchronous averaging, cross phase analysis and others).

Trainee will learn about dynamics and natural frequencies and resonance.

Faults detection of rolling element and journal bearings will be covered in more details.

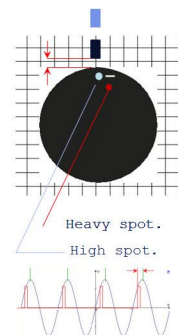


The course will demonstrate the faults of different equipment that almost found in all industrial applications (motors, fans, pumps, compressors, gearboxes, etc.) and their corrective action.

The course will explain all functions of your analyzer and setting up tests.
For more information, please visit www.Mobiusinstitute.com



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Certification is very important. Certification shows employer (or client) your peers that you the requirements to perform the difficult vibration analysis.

Courses will be ended by a day dedicated for exam. This will be only for the trainee who is registered to have the exam.

*With MOBIUS Institute courses and examinations follow:
The ISO 18436-2
ASNT SNT-TC-1A*

Certified trainee will be registered on site as a vibration analyst according to their category they passed.

For more details on the coverage of each Mobius Institute course, and to download the course brochures please visit www.Mobiusinstitute.com or www.NatcomEgypt.Com

Course Duration: 2 days

Course Description:

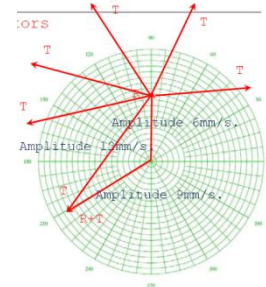
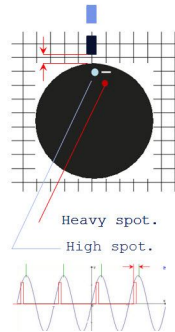


The course will go through the following subjects:

- Alignment Introduction.
- Determining the alignment state.
- Shaft Alignment mathematics.
- Understanding Dial Indicators.
- Soft Foot checks and corrections.
- Dynamic and thermal movement.
- The Rim – Face dial indicator method.
- The “Reverse Dial” method.
- Laser Alignment.
- Machine Moving.
- Practical training and hands-on demonstration.

Course Duration: 2 days

Course Description:



The course is covering rigid-rotor single and two plane balancing.

The course includes:

- Types of unbalance.
- Balancing fundamentals.
- Confirming Balancing.
- Single and two plane balancing.
- Splitting and combining weights.
- Balancing overhung fans.
- Balancing Grades.
- Practical training and hands-on demonstration.

 **Industrial Oil Analysis**

Course Duration: 3 days

Course Description:

The course will expose the oil analysis from an engineering view and it will contain:



- *Create understanding of basics of Lubrication Process, and functionality of Lube Oils.*
- *Applying the Concepts of Reliability-Based Maintenance to Tribology.*
- *Ensuring Work Quality through Oil Analysis.*
- *Analyze oil analysis data and utilize the results to make informed decision*
- *Identify common types of wear debris, their origins, and corrective actions*
- *Describe the importance of contamination control and its impact on reliability*
- *Design sampling, storage and handling procedures for new and used lubricants*
- *Practical Training on On-site mini lab.*

 **Ultrasonic Inspection**

Course Duration: 2 days

Course Description:



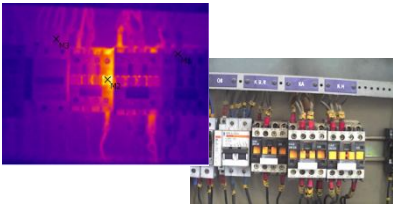
Ultrasonic detection has existed for over 25 years and is widely used throughout continuous process operations for a variety of predictive maintenance applications. The course is exposing the areas at which the technology of the Ultrasonic can be used. The trainee will learn about:

- *Effectiveness of Ultrasonic Monitoring.*
- *Fault Isolation.*
- *Technologies that can help in fault isolation.*
- *Application of fault isolation incl. leak detection, tightness testing, valve leakage and condition monitoring, Electric inspection, bearing condition monitoring, lubrication monitoring, etc.*
- *Hands-on Training.*

 **Infrared Thermal Imaging**

Course Duration: 3 days

Course Description:



Infrared Thermography is the most important and cost effective element of any electrical maintenance program.

A skilled thermographer who has thorough knowledge of electrical construction can detect electrical failures long before any other testing method reducing down time, saving equipment costs and increasing

The course will go through the following materials:

- *Thermal energy, heat and temperature.*
- *Temperature and Thermometers.*
- *Heat transfer and thermal radiation.*
- *IR imaging and measurements.*

 **CSI-21XX/MHM**

Course Duration: 4 days

Course Description:



The course will be focused on the functionality of the CSI 21XX (2115 / 2117 / 2120 / 2130) Machinery Health Analyzer series, and Machinery Health Manager (formerly called RBMWare) VibView Silver & Gold software packages. This course is intended for new users as well as experienced users of the portable CSI21XX analyzers family and MHM (RBMware) Software packages and should help them understand and apply all the features and capabilities of the system and become most efficient, productive, and successful in applying Predictive and Reliability-Based Maintenance.

 **AC/DC Motor Diagnostics**


Course Duration: 3 days

Course Description:



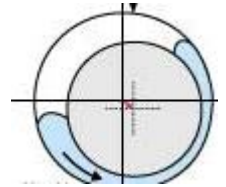
Contains theoretical background as well as practical applications including the Motor Circuit Evaluation (MCE™) using the six Fault Zones and Current Signature Analysis (CSA) and Power Quality sampling. Topics covered are also going to include

- *AC Induction Motor Theory and Design.*
- *Factors affecting motor life and condition.*
- *Symptoms of anomalies.*
- *Measuring and Diagnostic tools*

 **Vibration Diagnostics on Fluid Film Bearing Machines**

Course Duration: 3 days

Course Description:



Fluid film bearings Machines are unique in their diagnostics techniques because of the way they are structured. In this course, trainees will learn how to recognize and identify root causes of machinery faults such as rotor imbalance, rubs, fluid induced instabilities, cracked rotors, etc., by interpreting vibration signals. Trainees will experience a live demonstration using rotor kits of some of the common machinery faults to practice their skills. Also, some of the most valuable case histories will be discussed in class to enhance trainees understanding of the topic.