



FACTS

ACADEMIC DIRECTOR

- Prof. Dr. Christian Boller, Chair of Non-Destructive Testing and Quality Assurance (LZfPQ), Saarland University, Saarbrücken / Germany

VENUE OF STUDY

- Dresden / Germany

LANGUAGE OF TUITION

- English

COURSE START DATE

- each year in October

DURATION OF STUDIES / TYPE OF COURSE

- 2 years, full-time

TUITION FEES

- 18.200 euro in total (4.550 euro per semester)

ADMISSION REQUIREMENTS

- A Master's/Bachelor's Degree (4 years or 180 credit points) preferably in mechanical engineering, electrical engineering, civil engineering, material sciences or physics as well as related subjects
- Proficiency in English language (IELTS 6.0, TOEFL iBT79 plus oral and written interview)
- Practical experience in non-destructive testing (NDT) or even destructive testing is advantageous

DEGREE AWARDED

- Master of Science, M.Sc.

INFORMATION AND APPLICATION

DRESDEN INTERNATIONAL UNIVERSITY (DIU)

Tel.: + 49 351 40470-151

E-Mail: ndt@di-uni.de

Freiberger Straße 37

01067 Dresden

www.di-uni.de



Interdisciplinary and practically orientated

Established in 2003, the DIU offers a diverse portfolio of undergraduate and graduate degree programmes. They are clustered in five centres of excellence such as the »Centre for Natural Sciences and Engineering«. The degree programmes can be completed in out of working hours studies or integrated into a training course. Compared to others the courses distinguish because of their close link to science and application.

This course is accredited by ZEvA.



DIU Dresden International University
The continuing education university of the
Technische Universität Dresden



**BECOMING THE
FUTURE LEADERS FOR
PRODUCT QUALITY.**

MASTER COURSE
Non-Destructive Testing
Master of Science, M.Sc.

AIMS OF THE COURSE

- Raise awareness in terms of enhanced quality and safety in structural engineering and science
- Provide an extended and up to date understanding of the techniques used in non-destructive testing
- Educate and train the future leaders in non-destructive testing research and application



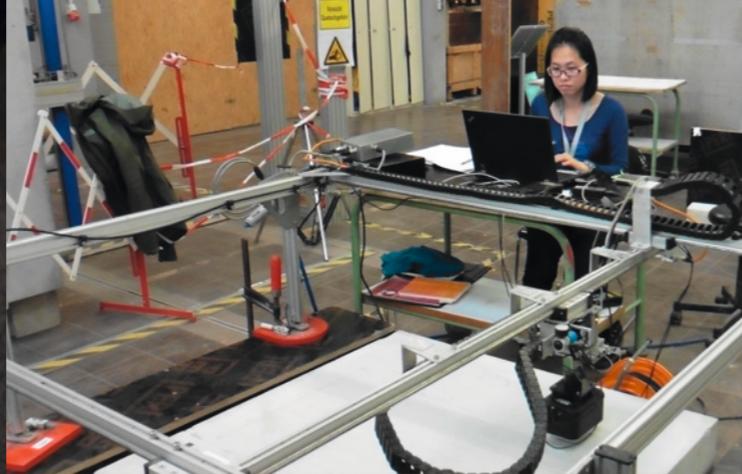
Kompetenzzentrum
**Natur- und
Ingenieurwissenschaften**

- » Never before have we been able to recruit students with so much NDT knowledge to start a master thesis in an NDT related subject.

A SUPERVISOR'S COMMENT

- » This course is an exceptional opportunity to provide a »best in class« option in training and qualifying the future leaders in NDT. DIU's flexibility in recruiting top class lecturers at shortest notice is a tremendous competitive advantage in terms of educational success when compared to classical university programmes.

THE SCIENTIFIC DIRECTOR'S COMMENT



Non-destructive testing (NDT) is increasingly gaining importance to sustain quality with either new or existing products and infrastructure. This is not just limited to the highly industrialised societies but rather also to those emerging in terms of technology, industrialization and economy. NDT has therefore become an essential need on a fully international basis.

Non-destructive testing (NDT) has been widely recognised as an own field of science and technology covering a very broad range of applications. NDT is not just an agglomeration of techniques to be applied but rather a science to be based between the classical disciplines of applied physics, applied mathematics, computer science, electronics, materials science and engineering structural design. Significant scientific and technological development in all of those disciplines gives rise to also consider this within the context of NDT. Leaving this technological development solely to what

is happening in the classical disciplines of computer science, mathematics, physics or the different engineering disciplines (i.e. civil, electrical, materials, mechanical) will not sufficiently address the needs of NDT itself but rather to those of the classical disciplines only, which may likely limit the applicability of a NDT technique being developed.

» This course provides an excellent basis to understand on how top class research and engineering application is performed in Germany and Europe.

STUDENTS' COMMENTS

In that regard specifically the area of NDT science and technology is addressed where many of the R&D institutions are struggling to find adequately trained personnel, which traditionally has to be recruited from neighbouring disciplines otherwise and has then to be adequately trained until it can productively work in the NDT research field addressed. This is definitely time consuming and costly and is underlining the general say that NDT training is a matter of years if not even decades.

» Small classes and individual care by the lecturers have helped me to perform the best of my capabilities. The research placement in this course allowed me to discover my dedication to research.

STUDENTS' COMMENTS

STRUCTURE OF THE COURSE

The course is organised in four semesters and has a strong scientific and hence research focus. In the first semester students are taught in all the major fundamental disciplines such as metallic and polymer materials, measurement techniques, mechanics, signal processing, and quality management.

In the second semester major emphasis is on the different NDT techniques including acoustics, optics, electromagnetism, radiology and microscopy. The third semester is devoted to participating in the Basic Course of the German Society for NDT (DGZfP) and a research placement in reputable research centres such as the affiliations of the different lecturers including BAM in Berlin, Fraunhofer or different universities with a specific dedication to NDT. During the fourth and final semester students do perform their master thesis, most likely with the institutions they already performed their research placement with.

The course is fully taught in English with modules run consecutively as a block. Location of teaching is mainly in Dresden/Germany. The course is also offered and further developed as a double degree (DD) course between DIU and another university abroad where the first and the last semester is taken at the sending university abroad while the two middle semesters are taken at DIU. Furthermore, each student can apply for a special Certificate of the German Society of Non-Destructive Testing (DGZfP).

CONTENTS OF THE MASTER COURSE

| »»» 1 st semester (6 ECTS per module) | |
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| Module 1 | Metallic and Polymer Materials |
| Module 2 | Measurement Techniques |
| Module 3 | Mechanics |
| Module 4 | Numerical Methods & Signal Processing |
| Module 5 | Introduction into NDT and Quality Management |
| »»» 2 nd semester (6 ECTS per module) | |
| Module 6 | Acoustic Methods |
| Module 7 | Electromagnetic Methods |
| Module 8 | Radiological Methods |
| Module 9 | Optical Methods |
| Module 10 | Thermal and Microscopic Methods |
| »»» 3 rd semester (15 ECTS per module) | |
| Module 11 | BC-Course of DGZfP |
| Module 12 | Research placement |
| »»» 4 th semester (30 ECTS) | |
| Module 13 | Master Thesis |