



# Knowledge FOR Resilient soCiEty



## K-FORCE TRAINING VISIT AT DTU - March 12-23, 2018

### WEEKLY PLAN AND DAILY AGENDA\*

#### Weekly Plan – Week 12 (12<sup>th</sup> -16<sup>th</sup> March) + Week 13 (19<sup>th</sup> – 23<sup>rd</sup> March)<sup>1</sup>

|                         | DTU speaker   | Guest speaker/activity   | Self-study  | Break/Social activity  | Free time   |
|-------------------------|---|--|---|--|---|
| DTU Training Visit      | Week 11   |  |   |  |   |
|                         | 12-mar  | 13-mar   | 14-mar  | 15-mar   | 16-mar  |
| Early morning (8-10)    | Welcome / Intro   | MSc Courses (KHZ, SEBT, LUGI)  | Material and Structural Lab Tour (118, 119)               | 11367 Probabilistic modeling in civil engineering - (127/013)<br>Lecture on Reliability of technical components and systems (SEBT) | Section breakfast<br>Pedagogical Training<br>11022 Fire Dynamics (127/013) - Lecture on pressure profile and ventilation flow (LSS) |
| Late morning (10-12)    | MSc and BSc Education at DTU (JHN, PG, LBP)<br>Teach. facil. tour (117,127) | MIB Education at DTU and MIB Courses (LSS, FRAM, LUGI)                           | MSc Theses - Experimental (LUGI, students - 119, 122)     |  | SOCIAL EVENT  |
| Lunch break             |   |  |   |  |   |
| Early afternoon (13-15) | Tour of the department  | MSc Theses - BIM/structure (LUGI, students)                                      | Visit to VR Lab (118)                                     | Workshop on fire modeling (LUGI, FRAM, guests)   | SOCIAL EVENT  |
| Late afternoon (15-17)  | Teaching and research in WBC (presentations from our guests)                | Introduction to lab experiments (FRAM)<br>Test for lab clearance and preparation | Preparation for workshop                                  |  |   |
| DTU Training Visit      | Week 12   |  |   |  |   |
|                         | 19-mar  | 20-mar   | 21-mar  | 22-mar   | 23-mar  |
| Early morning (8-10)    |   |  | Self-study on 11B13 lecture                               | Msc in Artek and Archit.Eng. (GUNKI, CHRIR)  | Section breakfast   |
| Late morning (10-12)    | Preparation on lab-experiment   | Preparation on lab-experiment  | 11B13 Course - (101/S02)<br>Performance-based fire design | Presentations on lab-experiment  | Discussion on course development<br>Evaluation and goodbye  |
| Lunch break             |   |  |   |  |   |
| Early afternoon (13-15) | 11B05 Course - (101/S02)<br>Fire Risk Management                            | Lab experiments (FRAM, guests)   | Preparation of presentation on lab-experiments            | Self-study on 11B27 lecture<br>11B27 Course - (101/S02)<br>Fire safety of complex buildings  |   |
| Late afternoon (15-17)  |   |  |   |  |   |

**\*CHANGES MAY OCCUR**

<sup>1</sup>All activities are located in DTU Campus in Lyngby. Meetings find place in room 018, at the ground floor of building 118, end of the left aisle. For group-work and self-study, you can use the desks in room 251, at the second floor of building 118, left aisle. Building 118 is located on Brovevej 118 in northeast part (1<sup>st</sup> quadrant) of the Campus. Any different location (lab visit, attendance of lecture) is specified in the daily plan. Please refer to DTU Campus map for detailed info on the locations of the different buildings.

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## Daily Plan March 12<sup>th</sup> – Building 118, Room 018

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### **09.00 - 10.00 Welcome and openings remarks**

09.00 - 09.20 Opening note (program of the visit and short presentation round)

*K-FORCE responsible at DTU – Luisa Giuliani*

09.20 - 09.40 Welcome from Head of Section and overview of section activities

*Head of Building Design section – Jan Karlshøj*

09.40 - 10.00 Fire Group activity at DTU-BYG

*Fire Group Representative – Luisa Giuliani*

### **10.00 - 10.20 COFFEE BREAK (offered)**

### **10.20 - 12.00 Education at DTU-BYG**

10.20 - 10.40 BSc in Building Technology

*Head of Study – Per Goltermann*

10.40 - 11.0 MSc in Civil Engineering

*Head of Study - Jens H. Nielsen*

11.00 - 11.20 BEng in Architectural Engineering

*Head of Study - Lotte Bjerregaard Jensen*

11.20 - 11.45 Teaching lab in building 117 (Per Goltermann & Lotte B. Jensen)

11.45 - 12.00 Teaching resources in building 127 – (Luisa Giuliani)

### **12.00 - 13.00 LUNCH BREAK (canteen in building 101)<sup>2</sup>**

### **13.00 - 14.00 Tour of the department**

### **14.00 - 14.20 COFFEE BREAK (offered)**

### **14.20 - 16.00 Teaching and research in WBC (Presentations from our guests)**

14.20 - 14.40 Edisa Nukic - University of Tuzla (UNTZ), Bosnia and Herzegovina

14.40 -15.00 Mladen Slijepcevic – University of Banja Luka (UNIBL), Bosnia and Herzegovina

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<sup>2</sup>Activities in grey are not part of the plan and considered as free time. You can use all DTU canteens at guest price. The two closest canteen are the student canteen and the faculty club canteen, respectively located at the ground and first floor of building 101. Building 101 lies at the center of DTU quadrants on Anker Engelunds Vej. Please refer to DTU Campus map for details.



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15.00 - 15.20 Candidate from University of Novi Sad (UNS), Serbia

15.20 - 15.40 Candidate from Technical School of Professional Studies in Novi Sad (VTSNS), Serbia

15.40 - 16.00 Enea Mustafaraj – Epoka University (EPOKA), Tirana, Albania

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## Day 2 - March 13<sup>th</sup> – DTU, Lyngby, Brovej, Building 118, Room 018

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### 09.00 - 10.00 MSc Courses at DTU-BYG

09.00 – 09.20 11050 Superlight structures

*Course Responsible – Kristian Hertz*

09.20 – 09.40 11367 Probabilistic modeling in civil engineering

*Course Responsible – Sebastian Thoens*

09.40 – 10.00 11080 Advanced Building Design

*Co-Teacher – Luisa Giuliani*

### 10.00 - 10.20 COFFEE BREAK (offered)

### 10.20 - 12.00 MiB Courses at DTU-BYG

10.20 – 10.35 MiB Education

*Head of Study - Lars Schiøtt Sørensen*

10.35 – 11.00 11B25 (11022) Fire Dynamics

11B13 (11020) Performance based fire design

*Head of Study and course responsible - Lars Schiøtt Sørensen*

11.00 - 11.20 11B12 CAD Fire

*Course Responsible – Luisa Giuliani*

11.20 - 11.40 11B01 (11023) Structural Fire Safety

*Co-Teacher – Luisa Giuliani*

11.40 - 12.00 11B05 Fire Risk Management

*Course Responsible – Frank Markert*

### 12.00 - 13.00 LUNCH BREAK



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## 13.00 - 15.00 Supervision activity for MSc students

13.00 - 14.00 MSc Thesis project on BIM/Structure integration

*Guest researcher - Lorenzo Beltrami*

14.00 - 15.00 MSc Thesis project on BIM/Fire Integration

*MSc students – Thomas Dyr and Mikkel Andersen*

## 15.00 - 15.20 COFFEE BREAK (offered)

## 15.20 - 17.00 Introduction to lab project

15.20 - 16.20 Introduction to lab-experiments

16.20 - 17.00 Preparation and test for lab clearance

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## Day 3 - March 14<sup>th</sup> - DTU, Lyngby, Brovej, Building 118, 119, 122<sup>3</sup>

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### 09.00 - 10.00 Lab Tour

09.00 - 09.30 Visit of the Material Lab (Building 118, first floor, right aisle)

*Representative of the Material Group – Ebba Schnell*

09.30 - 10.00 Visit of the Material Lab (Building 119)

*Responsible of the Structural Lab - Michael Andreassen*

### 10.00 - 12.00 Supervision activity for MSc students

10.00 - 11.00 MSc Thesis Project on concrete strength degradation in fire (Structural Lab, Building 119)

*MSc students – Rafael Al-Mubarak and Jeppe Rein Boese*

11.00 - 12.00 MSc Thesis Project on resistance of window glass panes in fire (Fire Lab, Building 122)

*MSc students – Khalil Yehia Ahmad and Talib Javed*

### 12.00 - 13.00 LUNCH BREAK

### 13.00 - 15.00 Digital Learning

Visit of the VR Lab (Building 118, first floor, right aisle)

*Teaching Assistant at DTU – Andrei Cornel Danet*

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<sup>3</sup>The material lab is at the ground floor of building 118 (right aisle). The structural lab is at the ground floor of building 119, which is located on Nordvej north of building 118. The fire lab (building 122) is in the open area with small houses accessible by an open gate just in front of Building 119 on Nordvej. The VR Lab is located in building 118, room 247. Please refer to DTU map for more detailed information on the location.



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## 15.00 - 16.00 Self-study

Preparation for workshop on fire modeling

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## Day 4 - March 15<sup>th</sup> – DTU, Lyngby, Brovej, Building 118 and 127<sup>4</sup>

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### 08.00 - 12.00 Course attendance

11367 Probabilistic Modeling in Civil engineering (Building 127, Room 013)

08.00 - 10.00 Lecture on Reliability of technical components and systems (SEBT)

*Course Responsible – Sebastian Thoens*

10.00 - 12.00 Tutorial on the lecture (individual study or group-work)

### 12.00 - 13.00 LUNCH BREAK

### 13.00 - 16.00 Workshop on fire modeling

13.00 - 14.00 MSc projects on fire spread modeling in FDS

*Project supervisor - Luisa Giuliani*

14.00 - 15.00 Modeling and validation issues in CFD and FEM models.

*Luisa Giuliani, Lars Schjøtt Sørensen and WBC guests*

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## Day 5 - March 16<sup>th</sup> – DTU, Lyngby, Brovej, Building 118, 127, 101

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### 09.00 - 09.30 SECTION BREAKFAST (offered)

### 09.30 - 10.00 Education in University Teaching at DTU

Introduction to DTU Pedagogical Training (UDTU)

*Educational consultant - Pernille Hammar Anderson*

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<sup>4</sup>The teaching buildings 116, 117, and 118 are located just outside building 118. Building 127 is the new building with a yellow steel façade in front of building 118. The MiB lectures are instead hold at DTU Meeting Center, which is located at the ground floor of building 101, between entrance A and B. Please refer to DTU Campus map for details.



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## 10.00 - 12.00 Course attendance

11022 Fire Dynamics - Lecture on pressure profile and ventilation flow (Building 127, Room 013)

*Course Responsible – Lars Schiøtt Sørensen*

## 12.00 - 17.00 SOCIAL EVENT

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### Day 6 - March 19<sup>th</sup> – DTU, Lyngby, Brovej, Building 118 and 101

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## 09.00 - 12.00 Self-study

Preparation on lab-experiments

## 12.00 - 13.00 LUNCH BREAK

## 13.00 - 16.00 Course attendance

11B05 Fire Risk Management (Building 101, Room S02)

*Course Responsible – Frank Markert*

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### Day 7 - March 20<sup>th</sup> – DTU, Lyngby, Brovej, Building 118 and 101

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## 09.00 - 12.00 Self-study

Preparation on lab-experiments

## 12.00 - 13.00 LUNCH BREAK

## 13.00 - 16.00 Laboratory-based teaching

Development and execution of lab experiments for a course in Fire Dynamics (Fire Lab in Building 122)

*Head of the Fire Lab – Frank Markert*

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### Day 8 - March 21<sup>st</sup> – DTU, Lyngby, Brovej, Building 118 and 122

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## 09.00 - 12.00 MiB course attendance

09.00 - 10.00 Self-study on the topic of lecture 11B13



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10.00 -12.00 11B13 Performance-based fire design (Building 101, Room S02)

Lecture on evacuation and toxicity

*Course Responsible – Anne Dederichs*

**12.00 - 13.00 LUNCH BREAK**

**13.00 - 16.00 Self-study**

Prepare presentation on lab-experiments

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**Day 9 - March 22<sup>nd</sup> – DTU, Lyngby, Brovej, Building 118 and 101**

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**09.00 - 10.00 Other MSc education lines at DTU**

09.00 - 09.30 Nordic Master in Cold Climate Engineering

*Head of study - Gunvor M. Kirkelund*

09.30 - 10.00 MSc in Architectural Engineering

*Head of study – Christian Rønne*

**10.00 - 10.20 COFFEE BREAK (offered)**

**10.20 - 12.00 Laboratory-based teaching**

Presentation on fire lab experiments from WBC guests

10.20 - 10.40 Edisa Nukic - University of Tuzla (UNTZ), Bosnia and Herzegovina

10.40 -11.00 Mladen Slijepcevic – University of Banja Luka (UNIBL), Bosnia and Herzegovina

11.00 - 11.20 Candidate from University of Novi Sad (UNS), Serbia

11.20 - 11.40 Candidate from Technical School of Professional Studies in Novi Sad (VTSNS), Serbia

11.40 - 12.00 Enea Mustafaraj – Epoka University (EPOKA), Tirana, Albania

**12.00 - 13.00 LUNCH BREAK (offered)**

**13.00 - 16.00 MiB course attendance**

13.00 - 14.00 Self-study on the topic of lecture 11B27



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14.00 - 16.00 11B27 Fire Safety of complex buildings (Building 101, Room S02)

Lecture on Fire risk identification in buildings and plan of a fire strategy

*Course lecturer - Sune Nygaard*

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## Day 10 - March 23<sup>rd</sup> – DTU, Lyngby, Brovej, Building 118

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**09.00 - 10.00 SECTION BREAKFAST (offered)**

**10.00 - 11.00 Workshop on MSc teaching**

Courses: Type of teaching, lecture duration and structure, exercises, exam, and teaching feedback

Projects: Project description, frequency and duration of supervising session, exam and censorship

Education: Difference and challenges in MSc and LLL education

**11.00 - 12.00 Wrap-up and evaluation of the training visit**