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**Experience in the application of the learn-management-system black-board in lectures and practical course and examination in "forensic medicine" for medical students**

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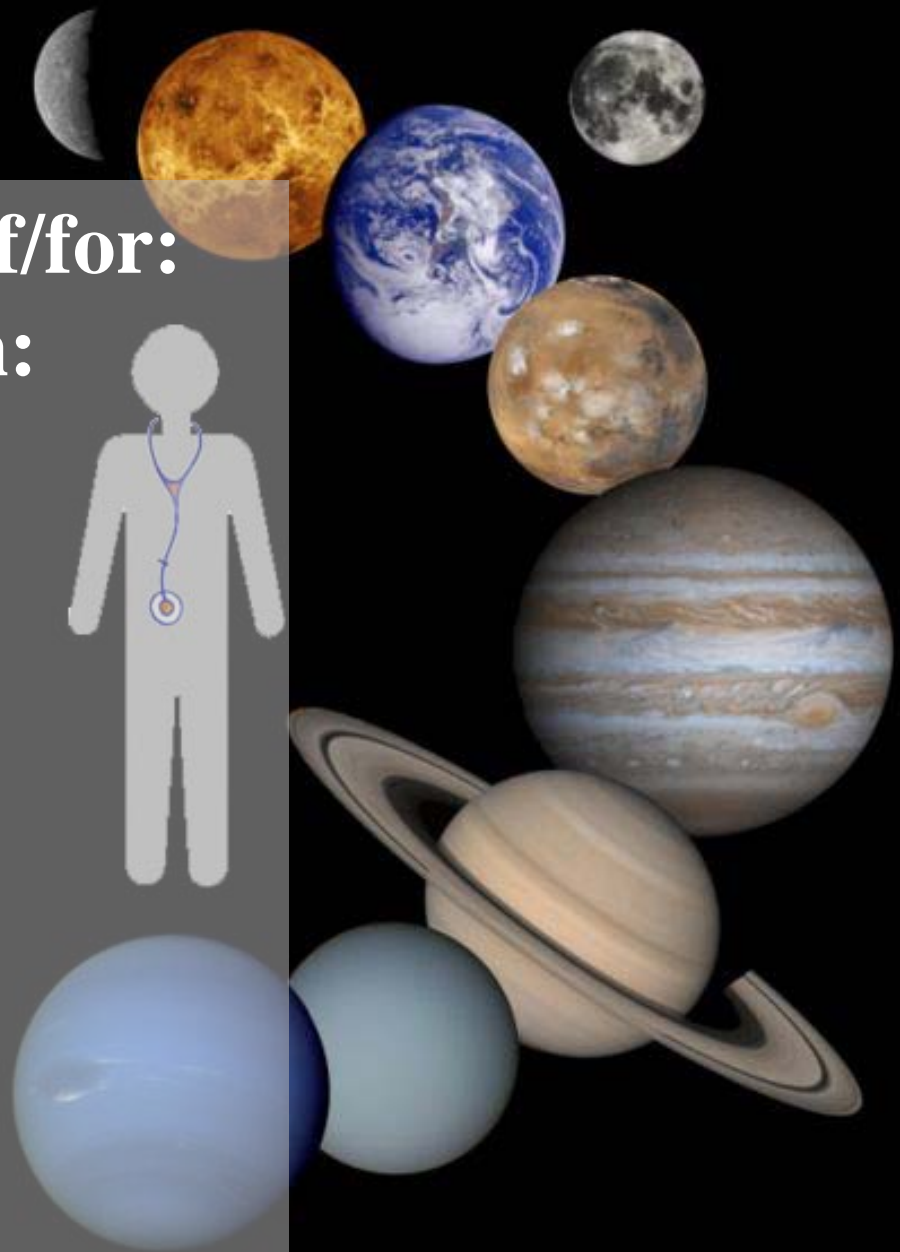
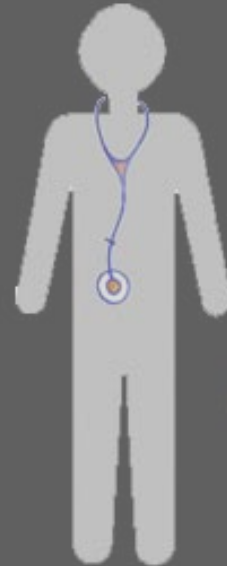
- 1. The basis of our educational situation**
- 2. The ideas for stabilization / improvement of our results and acceptance (by students) of our teaching way by use of a LMS**
- 3. Overview of our activity and examples**
- 4. Summary of our impression of the use of such a LMS and reactions of the students**
- 5. I cannot let out to thank Ms Vilentschuk from the CEDIS-team of the FU as well as Ms Klempert - a helping student**

# **1. The basis of our educational situation**

○ Forensic medicine

**Dominant areas of/for:  
medical education:  
and  
medical practice:**

internal medicine  
neurology  
surgery  
pediatrics  
gynecology  
pharmacology  
different other fields



**Very common standpoint of physicians  
for situations or patients with forensic  
problems:**

**"there is a special medical field which  
has to be instructed: forensic medicine  
- and we do not dip in an extensive in-  
vestigation like this"**



HERE **WE** ARE  
(FORENSIC EXPERTS)

**CA. 300**

HERE **YOU** ARE  
(OTHER SPECIALISTS)



**CA.**

**300.000**

# DEATH OF A PERSON INVESTIGATION OF THE CORPSE



## DEATH CERTIFICATE

MODE OF DEATH



NATURAL  
DEATH



UNNATURAL  
DEATH  
OR: ???

AUTOPSY IN HOSPITAL  
(SEKTIONSGESETZ 1996)

< 10 %

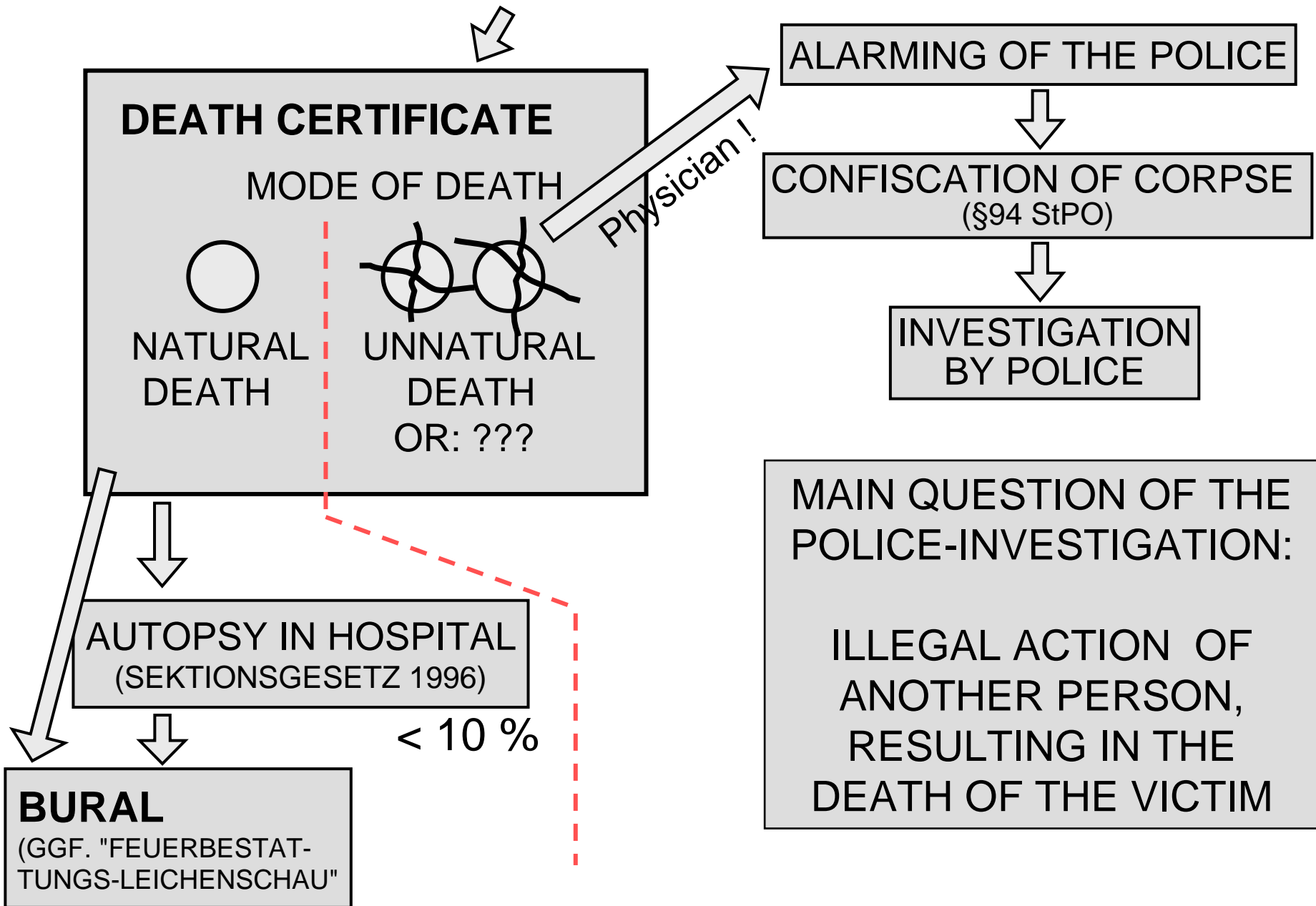
**BURIAL**

(GGF. "FEUERBESTAT-  
TUNGS-LEICHENSCHAU")

In Berlin:

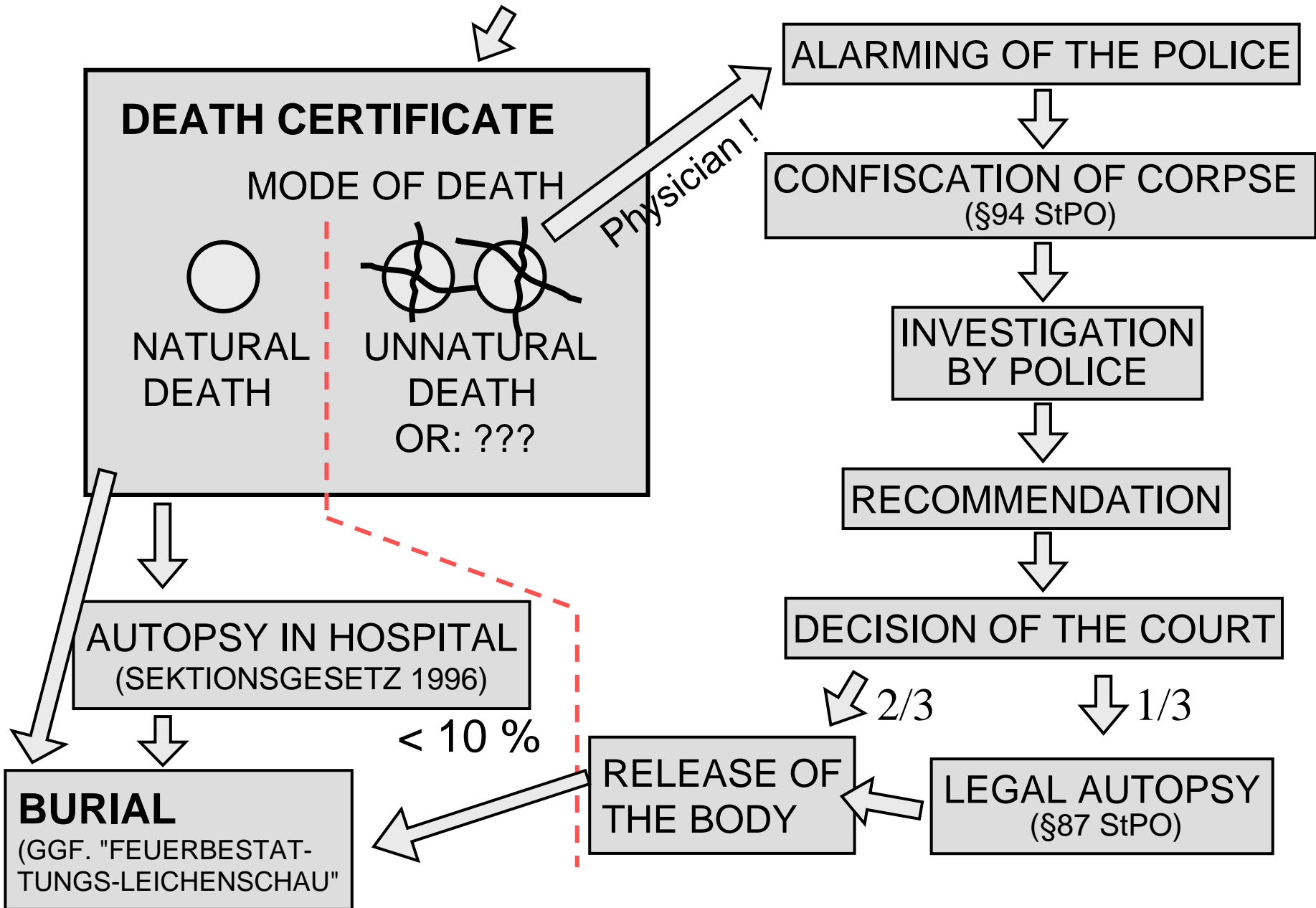
**Ca. 30.000 deaths  
per year**

# DEATH OF A PERSON INVESTIGATION OF THE CORPSE





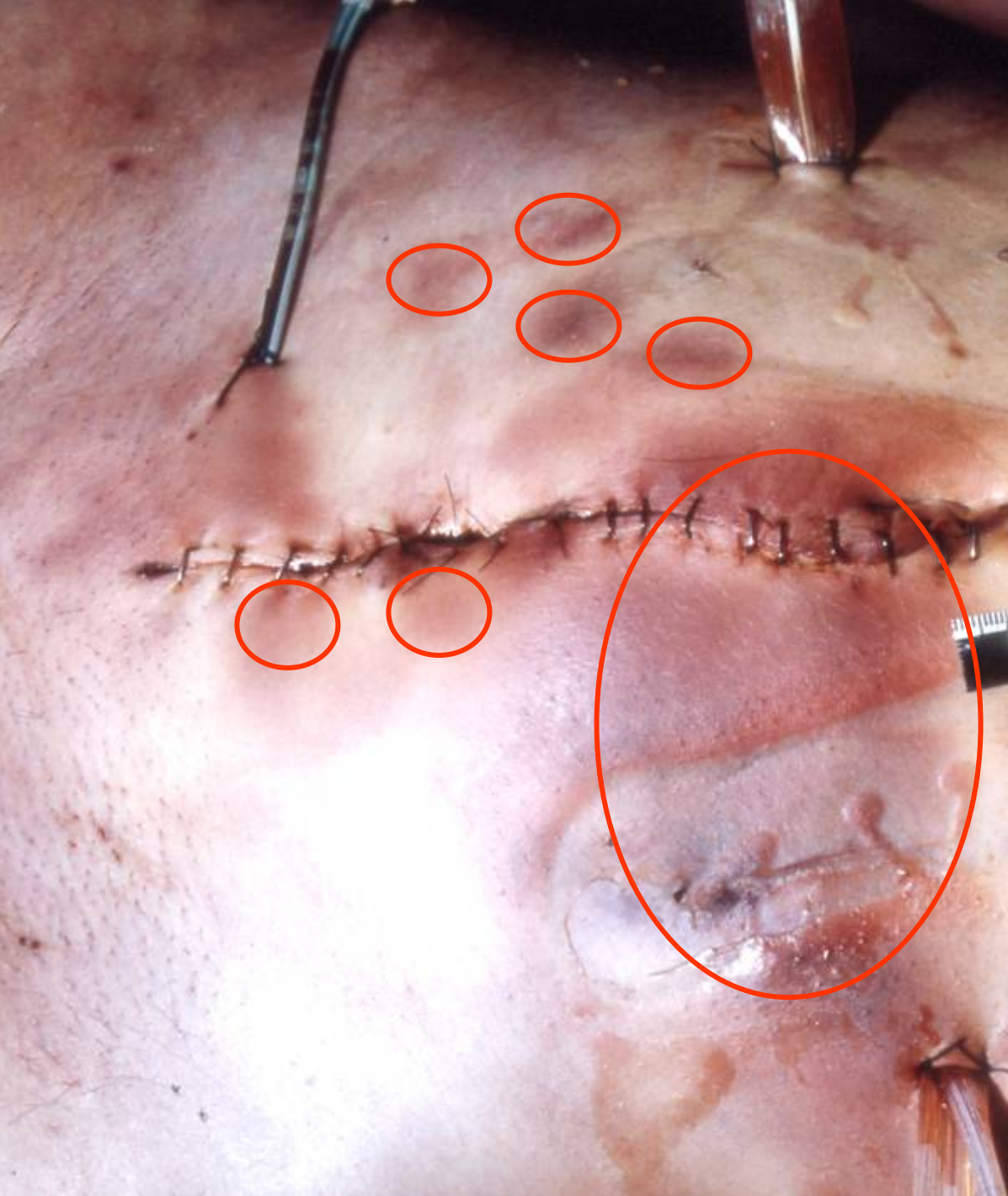
# DEATH OF A PERSON INVESTIGATION OF THE CORPSE



examples for the (general) medical  
necessity of knowledge of findings  
indicating a forensic background:



**Woman of middle age  
admission to hospital because of a  
femoral neck fracture, operation  
postoperative status unstable  
found dead in her hospital bed some  
days after trauma**



Findings in definite contrast to this statements:

multiple small bruises as results of multiple hits with an object with small parts of its surface

Final conclusion:

the man injured the woman by multiple kicks (cowboy-boots on his feet)





**Boy, 3,5 month old, brought by mother into hospital because of unexpected loss of consciousness.**

**Diagnosis of a hypoxic brain injury, subdural bleeding and retinal hemorrhages; brain death 7 days later**

**Autopsy: multiple bilateral bridging vein ruptures as results of shaken baby syndrome**

**History: clinical presentation 2 month earlier because of a femoral fracture which by the mother was explained as result of a fall from a table.**

**But: there was a spiral fracture, not explainable by this type of injury, but also the result of child abuse**





# DER TAGESSPIEGEL

28. NOVEMBER 2003

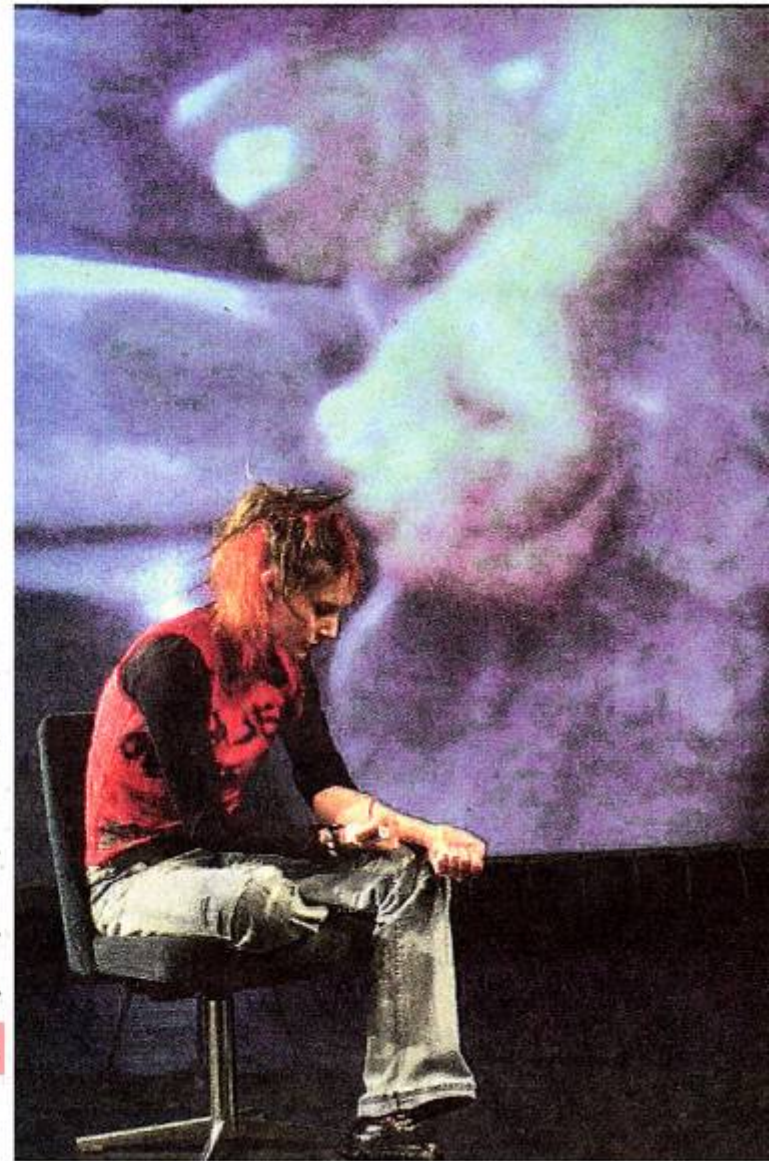
## WELTSPIEGEL

### Der Schnitt geht tiefer

Immer mehr junge Mädchen ritzen sich die Haut auf  
– wenn das Blut fließt, lässt für sie der Schmerz nach

Die Rasierklinge hatte sie in ihrem Tagebuch eingeschlossen. Sie gehörte genauso zu ihrem Leben wie die Sätze, die sie aufschrieb, wenn sie sich von der Welt nicht mehr verstanden fühlte.

Experten schätzen die Zahl der so genannten Ritzerinnen auf **deutschlandweit mindestens 800 000.**



**... at least 800.000/year self-inflicted injuries by sharp force ...**



# **Basal features for our educational practice:**

**lecture "forensic medicine":**

**4. clinical semester**

**practical courses "forensic medicine"**

**5. clinical semester**

# Basal features for our educational practice:

## until 2003:

approximately **150** students/semester

practical course: **34** hours

**10** students per group

**since 2004** (legal modification of the rules for obtaining a license to practise medicine and fusion of 2 medical faculties):

approximately **300** students/semester

reduction of the number of teaching persons

practical course: **17** hours

**18** students per group

requirement of giving a **formal degree** for the students knowledge

# **How to rescue an intensive forensic-medical education in this situation ?**

without ignoring the personal aversion against / difficulties in "contact" with dead victims and the necessity of a competent external examination of the body - a situation which is present in many students as well as physicians -

without enlarging the distance between the teaching persons and the students

without degrading the teaching way as well as the results of examinations

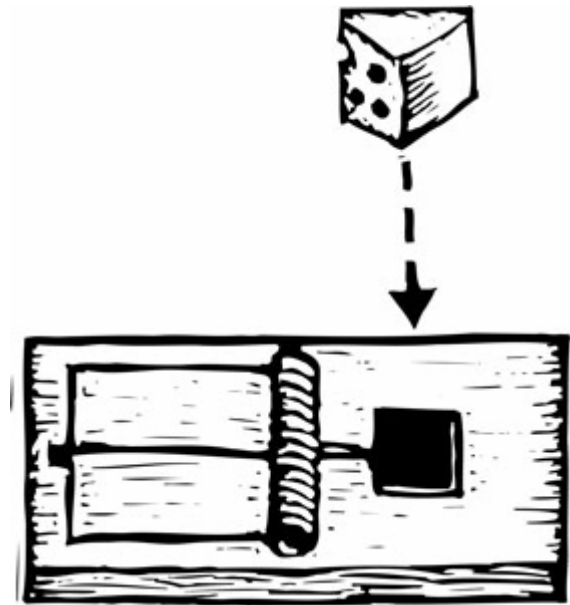
resulting in a broad acceptance and intensive cooperation by the students

**2. The ideas for stabilization / improvement of our results and acceptance (by students) of our teaching way by use of a LMS**

**3. Overview of our activity and examples**

How to catch the students for an intensive cooperation? ... with a

# LURE?



# Idea:

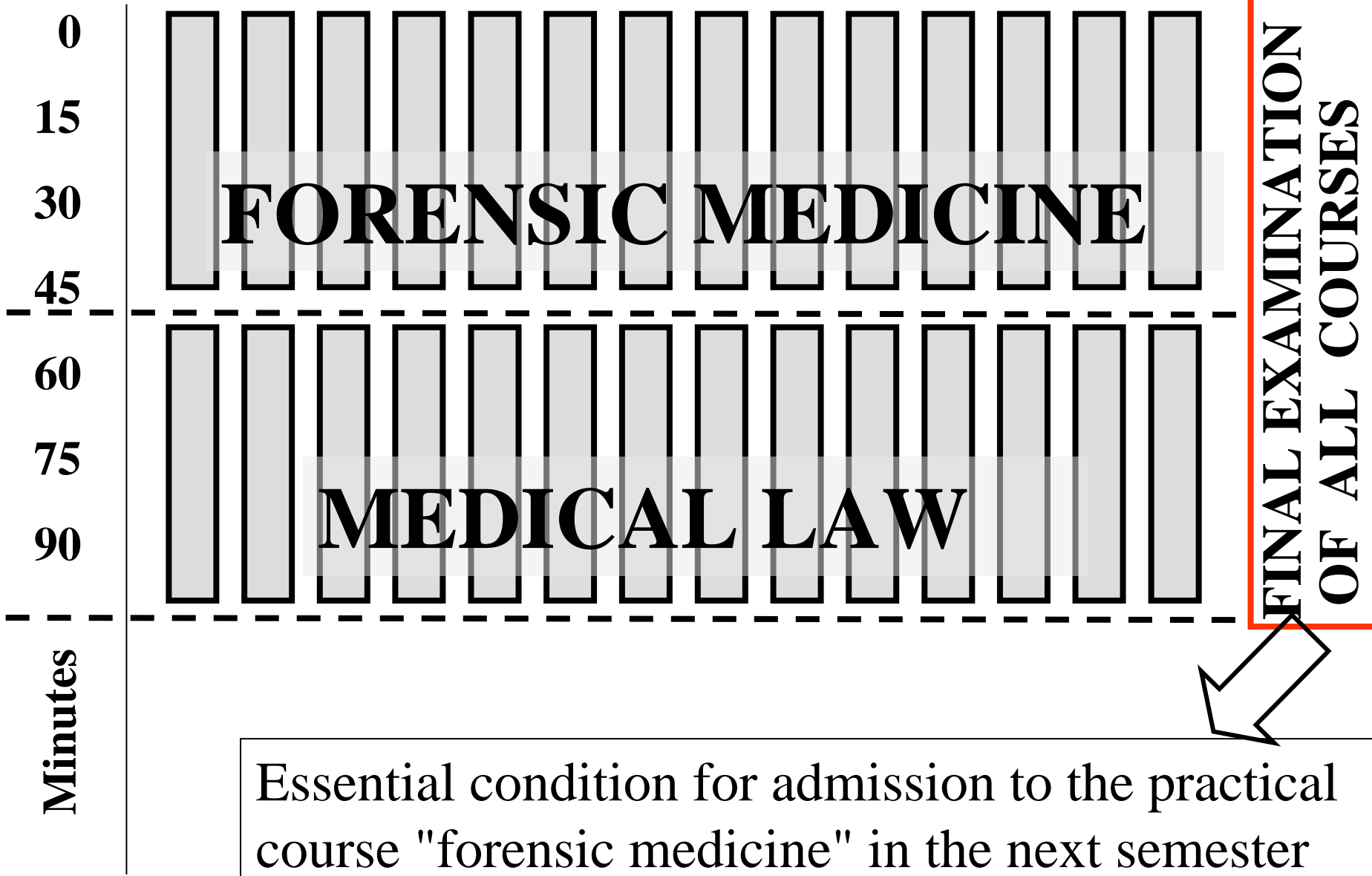
Supplement of the lectures with presence of the students by:

- a) material of the topic, available at home, **before** the lecture for an individual preparation of the theme
- b) automatically checked selftests on the own computer **after** the lecture to control his learning and insight of the material, and to exercise for the final tests

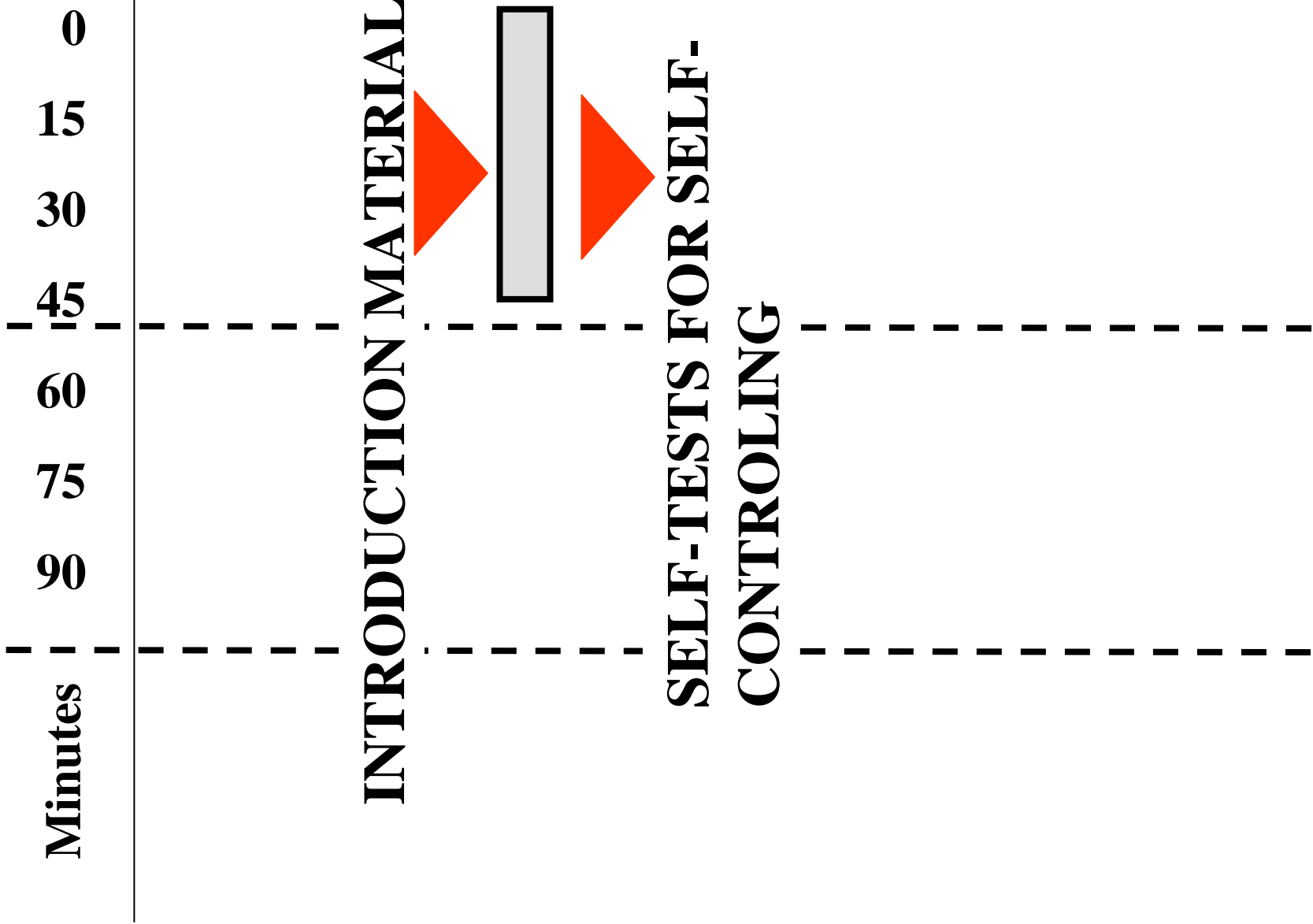
Offer in the 4th semester to do the obligate **admission test** for the practical course in the 5th semester via 3 online-tests (at home) and in the 5th semester to do the **final examination** on PC in our institution

Opening of discussion areas in the LMS to find help and answers by other students and/or the teaching persons

**LECTURE 3 4 5 6 7 8 9 10 11 12 13 14 15**



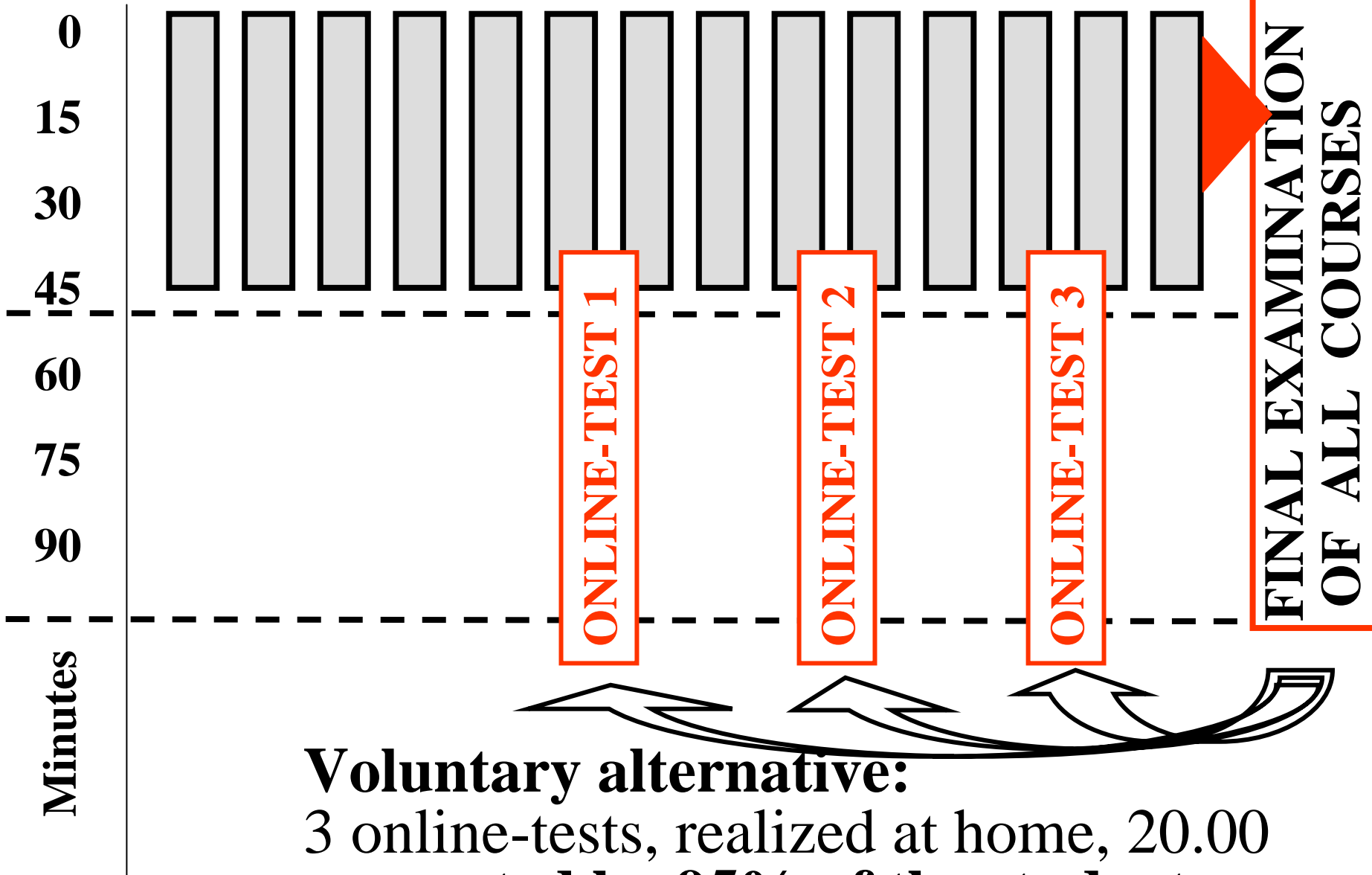
**LECTURE 3 4 5 6 7 8 9 10 11 12 13 14 15**



**FINAL EXAMINATION  
OF ALL COURSES**



**LECTURE 3 4 5 6 7 8 9 10 11 12 13 14 15**



**Voluntary alternative:**  
3 online-tests, realized at home, 20.00  
- accepted by 95% of the students -

# **safety of the online-tests made at home**

## **- objective elements -:**

***Difficulties*** against inadmissible activities:

- Type of questions (answering not possible by simple looking up a textbook)
- narrow time to register in the examination (5 min.)
- restricted time to complete / submit the test (20min.)
- 2 examinations - different in details - and separation of all students in 2 groups
- different sequence of the questions, controlled by chance
- only 1 question is accessible
- not possibility to go back after questions submission

Practical course "forensic medicine"  
in the 5th clinical semester

# TERMIN

1

2

3

4

5

6

7

0

15

30

45

60

75

90

105

120

135

Minutes

INTRODUCTION

3

FORENSIC MEDCZINE

3

TOXIKOLOGY

2

FORENSIC MEDCZINE

3

GENETIC

2

FORENSIC MEDCZINE

3

EXAMINATION

1

SEQUENCE SEE YOUR INDIVIDUAL PLAN

**TERMIN 1**

**2**

**3**

**4**

**5**

**6**

**7**

0

15

30

45

60

75

90

105

120

135

**Minutes**

**INTRODUCTION MATERIAL**

**FORENSIC MEDCZINE**

**3**

**SELF-TESTS FOR SELF-  
CONTROLLING**

**EXAMINA-  
TION**

**1**

# **Final examination:**

a) undertaking of an examination of a corpse, including diagnostic interpretation

b) theoretical examination - under supervision - in our institution, using our laptops and LMS-tests similar to the self-tests