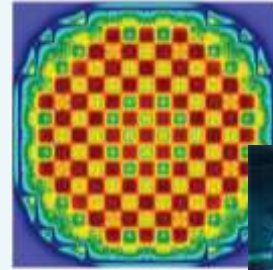


## Summer Semester 2017 Courses

### Courses

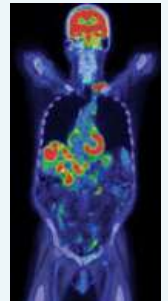
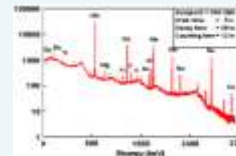
#### **MW0884 FUNDAMENTALS OF NUCLEAR ENGINEERING (Lecture + Exercises) (5 ECTS)**

This course gives an introduction to the fundamental physical concepts and mathematical models used in Nuclear Engineering for the Design and Safety Analysis of nuclear systems. The course is an introduction to static and dynamic design and to the safety analysis of nuclear reactors, which takes into account both nuclear reactions and the thermal and hydraulic dynamic feedbacks in the reactor system.



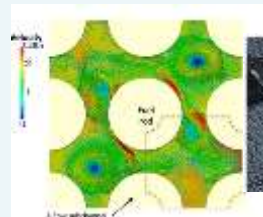
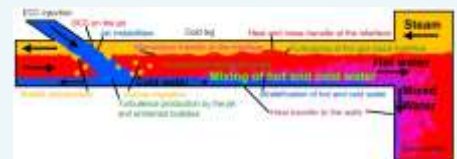
#### **MW0892 APPLICATION OF RADIOACTIVITY IN INDUSTRY, RESEARCH AND MEDICINE (Lecture) (5 ECTS)**

The course covers fundamental and advanced topics on the physics and the technology behind the application of radiation to industry, research and medicine. Modern techniques for Radiotherapy, Radio-diagnostics, Radio-tracers, Industrial Radiography, Neutron Activation Analysis, Radioactive Dating, etc. are presented, physically and technologically explained, and many examples of their applications are discussed.



#### **MW0964 FUNDAMENTALS OF THERMAL-HYDRAULICS IN NUCLEAR SYSTEMS (Lecture + Exercises) (5 ECTS)**

The course introduces the fundamental principles needed for the understanding and the analysis of the thermal-hydraulic behavior of nuclear systems from an engineering point of view, which are also applicable to other non-nuclear power generation thermal systems. The course focuses on thermal and hydraulic system design, safety constraints, physical and mathematical descriptions for single, turbulent, and two-phase modelling of flows, as well as thermal analysis of the fuel performance and its dynamic interaction with the coolant.



### Seminar

#### **MW2089 NUCLEAR SAFETY PRINCIPLES (5 ECTS)**

The seminar is designed to introduce students to nuclear safety and security (non-proliferation) issues. The students decide the topic they are more interested in to work on individually and to develop it during the semester. In weekly meetings, the students present to and discuss the material with the group. The seminar is completed with a final presentation and a report.



More Information on the courses:



Registration in TUM-Online

Questions:

[sekretariat@ntech.mw.tum.de](mailto:sekretariat@ntech.mw.tum.de)

