

A Short History of Science and Technology

Kurzzeichen:	M_SHST
Durchführungszeitraum:	nicht durchgeführt
ECTS-Punkte:	4
Lernziele:	At the end of this module, the students will be able to understand and qualitatively apply some of the most important ideas and concepts in science and technology. The goal of this module is to show the impact of these ideas onto culture and society but also the other way around, to show how culture and society actually generate great minds having such profound ideas. After successfully completing this module, the students will be able to place their field of study into a much fuller and broader picture of recent human achievement in science and technology.
Verantwortliche Person:	Guido Schuster
Empfohlene Module:	-
Zusätzlich vorausgesetzte Kenntnisse:	<ul style="list-style-type: none"> • Since the module is in English, a reasonable command of the English language is required • Since the formal language of science and technology is mathematics, reasonable command of the BMS mathematics is required
Modultyp:	Standard-Modul für Elektrotechnik (Bachelor 05) <small>(Keine Semester Empfehlung)</small> Standard-Modul für Elektrotechnik (Bachelor 14) <small>(Keine Semester Empfehlung)</small>

ECTS-Punkte pro Kategorie

Kategorie:	Modul zählt für keine Kategorie.
------------	----------------------------------

Modulbewertung

Bewertungsart:	Note von 1 - 6
----------------	----------------

Leistungsbewertung

Während der Prüfungssession:	Schriftliche Prüfung, ?? Minuten
------------------------------	----------------------------------

Während des Semesters:	
Bewertungsart:	keine Note oder Wertung

Kurse in diesem Modul

A Short History of Science and Technology

Kürzel:	SHST
Lernziele:	The main goal of this module is to show what kind of interaction there is between culture and society and science and technology. To this end, the recent and powerful ideas of science and technology are presented during the lectures and the students will apply these ideas to real world problems during the practice session. There they will see how these ideas have shaped the world we live in and how the world the innovators were living in during their discoveries influenced their thought and approaches to particular problems. At the end of the module the students will have a much better appreciation for the achievements of these innovators in science and technology and furthermore will be able to place their own work within a much larger framework.
Plan und Lerninhalt:	<ul style="list-style-type: none"> • Week 1 The development of calculus more than 350 years ago • Week 2 Newton's law of gravity explains the motion of the stars • Week 3 The invention of imaginary numbers improves almost all of engineering • Week 4 The Gaussian distribution is everywhere and is the bedrock of statistics • Week 5 From traffic jams to music, waves describe the world • Week 6 Interpreting the world in the frequency domain allows for new insights • Week 7 Navier-Stokes explain the mechanics of fluids • Week 8 The secret of electromagnetic waves is unlocked by Maxwell • Week 9 The 2nd law of thermodynamics dominates everything in the long run • Week 10 Relativity theory has changed our understanding of the universe • Week 11 Quantum mechanics is strange but apparently true • Week 12 Information theory is at the heart of the Internet • Week 13 Chaos theory clearly shows that not all is predictable • Week 14 The Black-Scholes equation gives us a handle on the financial markets Required Book: "17 Equations that changed the world" by Ian Stewart
Kursart:	Vorlesung mit 2 Lektionen pro Woche

Uebung mit 2 Lektionen pro Woche

Beschreibung erzeugt: 2019-03-01 11:54:22
Letzte Moduländerung: 2015-02-11 16:53:34
Modul-id: 25889
Status: deaktiviert