Nazwa w języku polskim:
Nazwa w jęz. angielskim: Advanced Computer Science Tools in Civil Engineering

Dane dotyczące zajęć:
Information on course:

Jednostka oferująca: Wydział Budownictwa
Course offered by: Faculty of Civil Engineering

Język wykładowy:
Angielski
Language:
English
Strona WWW: **Course homepage:**
https://platforma2.polsl.pl/rb/course/view.php?id=218
Skrócony opis:
Short description:
Basis of computer algebra systems- CAS (Mathematica, Derive, Maple, Wolfram|Alpha etc.). Applications of CAS in civil and structural engineering. High level systems for dealing with numerical tasks (Matlab, Scilab, GNU Octave). Advanced software for scientific and enginering documents edition (LaTeX, LyX, TeXmacs, TeXnic Center, etc.).
Opis:
Description:
1. Advanced software for scientific and enginering documents edition (LaTeX, LyX, TeXmacs, TeXnic Center, etc.) 2. Computer algebra systems- CAS (Mathematica, Derive, Maple, WolframAlpha etc.). Applications of CAS in civil and structural engineering. 3. High level systems for dealing with numerical tasks (Matlab, Scilab, GNU Octave) Number of hours of classes with direct participation of academic teachers or other persons teaching courses and students. Contact hours Lecture: 30h Number of ECTS credits: 2
Literatura:
Bibliography:
S. Rajasekaran: „Structural Dynamics and Eartquake Engineering; Theory and Application using Mathematica and Matlab”. CRC Press 2009 M. Asghar Bhatti: „Fundamental Finite Element Analysis and applications with Mathematica and Matlab Computations”.Wiley 2005 F. Mittelbach et al. : „The LaTeX Companion”. Adisson-Wesley 2004 a. other supplemental materials M. Asghar Bhatti: „Advanced Finite Element Analysis and applications with Mathematica and Matlab Computations”.Wiley 2005 A.L. Tyree: „Self-publishing with LyX”. Sage Tutorial Systems 2007

Efekty uczenia się:
Learning outcomes:
Knowledge about modern design, computational and editorial computer aided tools [K1A_W01, K1A_W05] Basic skills in application of advanced computer aided tools of computation and edition. K1A_U05, K1A_U06] Autonomically complements and extends knowledge of modern technologies. Is aware of the need to raise their professional and personal competencies. [K1A_K03, K1A_K06]
Metody i kryteria oceniania:
Assessment methods and assessment criteria:
Homework - a short document in LaTeX based on final project of a student. 100%

Przynależność do grup przedmiotów w cyklach:
Element of course groups in various terms:

Opis grupy przedmiotów Course group description	Cykl pocz. First term	Cykl kon. Last term
przedmioty obieralne studia stacjonarne i niestacjonarne stopień studiów – dowolny kierunek studiów – dowolny, semestr dowolny		