

CREATIVE MANAGEMENT OF COMPLEX SOFTWARE ENGINEERING PROJECTS IN INDUSTRY

**INSTRUCTOR**

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CONTACT

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COURSE DATES

Sept 09 - 13 2019
(subject to adjustment)

LOCATION

INFO WEST
Room 100A



COURSE OVERVIEW

This course presents the topic of creative software engineering project management in the widest sense, in the most sophisticated industrial environments, starting with efforts to ensure funding and to ensure knowledge needed for a project all the way until the end, when the results of the project are successfully commercialized and successfully used for the general mission that the project belongs to. In details, the course covers the following topics: creativity enhancing methods, resources for software engineering, software engineering for online MBA, CMMI for software engineering, agile methods for software engineering, business plans for software engineering, survey and research reports, protection of software engineering IP, branding in software engineering, software engineering of eBusiness portals, software engineering of Mind Genomics, Software engineering of Data Mining. In addition to the practice oriented topics, this course also covers two more topics. One, using the famous book of Lloyd, related to efficiency, and another one, using the famous book of Drucker, related to effectiveness and methods that enhance creativity.

Related course material was previously delivered at MIT, Harvard, Purdue, Ohio State, Columbia, NYU, CMU, GATECH, ETH, EPFL, UNIWIIE, TUWIEN, Belgrade...

GRADING SYSTEM

This course is a 3-credit course for those who take a 60-hour homework (three HW assignments), a 2-credit course for a 40-hour homework (two HW assignments), and a 1-credit course for a 20-hour homework (one HW assignment). After the entire material is delivered in-class, according to the **SCHEDULE**, students get an oral open-book exam, and a tentative grade gets assigned. The remaining teaching hours till 40 course hours are delivered via Skype or Study, on the weekly basis, till semester's end. The tentative grade becomes final when all HW assignments compile and run successfully by the semester's end. If one of the HW assignments does not compile, the grade gets one step lower, if two do not compile – the grade becomes two steps lower. At least one HW assignment must compile for a passing grade. Those who like to get a grade one step better than assigned at the mid-term exam, have to do also the HW#4. HW#1 is related to **Project Management**, HW#2 to **Business Intelligence**, HW#3 to **Mind Genomics**, while HW#4 is related to **Creativity Methodologies**.

Note! Senior level undergraduate students, master students, and PHD students are welcome: Computer Science, Information Systems, Data Science, Informatics, Computer Engineering, Electrical Engineering, Finance, MBA (onLine and inClass).

INSTRUCTOR



Prof. Veljko Milutinovic received his PhD from the University of Belgrade, spent about a decade on various faculty positions in the USA (mostly at Purdue University, and more recently at Indiana University in Bloomington), and was a co-designer of the DARPA's first GaAs RISC microprocessor and the DARPA's first 4096-processor GaAs systolic array. Later he taught and conducted research at the University of Belgrade, Serbia, in ECE, MATH, eBUSINESS, and SCIENCE. Now he serves as a Senior Advisor to Maxeler Technologies in London, UK. His research is mostly in datamining and dataflow computing, with the emphasis on mappings of algorithms onto architectures. His co-authored paper on matrix multiplication for dataflow received "The IET Premium Award for 2014" (meaning the single best paper in IET Computing for 2012 and 2013). He is a Fellow of the IEEE and a Member of Academia Europaea. He is a member of the Serbian National Academy of Engineering Sciences and a Foreign Member of the Montenegro National Academy of Sciences and Arts. He has over 100 SCI journal papers, well over 1000 Thomson-Reuters citations, well over 1000 Scopus citations, and about 4000 Google Scholar citations.

TEACHING ASSISTANT Milos Kotlar ABB Zurich, Switzerland: kotlar.milos@gmail.com

SCHEDULE

Sept 09 4pm-9pm:

- Creativity enhancing methods in software engineering
- Acquisition of resources for software engineering R&D
- Software engineering for onLine MBA

Sept 10 4pm-9pm:

- CMMI for software engineering
- Agile methods for software engineering
- Business plans for software engineering

Sept 11 4pm-9pm:

- Survey and research reports in software engineering
- Protection of software engineering IP
- Branding in software engineering

Sept 12 4pm-9pm:

- Software engineering of eBusiness portals
- Software engineering of Mind Genomics
- Software engineering of Data Mining

Sept 13 8am (or when good for students):

- Research discussions and sample exam
- Q&A
- Midterm exam

REFERENCES

- Blagojevic, V., et al. **A Systematic Approach to Generation of New Ideas for PhD Research in Computing**, Advances in Computers, Elsevier, Vol. 104, 2016, pp. 1-19.
- Bankovic, M., et al. **Teaching Graduate Students How to Review Research Articles and How to Respond to Reviewer Comments**, Advances in Computers, Elsevier, Vol. 116, 2019.
- Perl, M., (Nobel Laureate), **Interview: Creativity in Science**, "The IPSI BgD Transactions on Advanced Research", Vol. 5, 2009, pp. 2-5.
- Jerome, F., (Nobel Laureate) **The New Views of the Universe**, "The IPSI BgD Transactions on Advanced Research", Vol. 4, 2008, pp. 5-7.
- Knezevic, P., Radunovic, B., Nikolic, N., Jovanovic, T., Milanov, D., Nikolic, M., Milutinovic, V., et al., **"Obelix Searches Internet Using Customer Data"** IEEE Computer, 2000.
- Milutinovic, V., Mirkovic, J., Cvetkovic, D. **"Genetic Search Based on Multiple Mutations"**, IEEE Computer, 2000.
- Milutinovic, V. and Salom J., **Mind Genomics: A Guide to Data-Driven Marketing Strategy**, Springer, 2016.
- Jakus, G., Milutinovic, V. et al. **"Concepts, Ontologies, and Knowledge Representation"**, Springer Briefs, 2013.
- Milutinovic, V. et al. **"Mastering E-Business Infrastructure"**, Springer, 2003.
- Milutinovic, V. et al. **"Electronic Business and Education: Recent Advances in Internet Infrastructures"**, Springer, 2001.

LINKS

Course materials are available from the following link:



At the U.S. News Report:

The IU program in onLineMBA is listed #2 in the USA (2019).

The IU program in Information Systems is co-listed #10 in the USA (2019).