



UNIVERZITET U NOVOM SADU
FAKULTET TEHNIČKIH NAUKA
KATEDRA ZA PRIMENJENE RAČUNARSKE NAUKE

Arhitektura računara

prof. dr Dušan Gajić

Letnji semestar 2025/2026.

Studijski programi: RA, IN i PSI

O predmetu

Predavači

prof. dr Dušan Gajić

E-mail: dusan.gajic@uns.ac.rs

Kancelarija: NTP-330

Konsultacije: dogovor putem mejla

dr Nebojša Horvat

E-mail: horva.n@uns.ac.rs

Kancelarija: NTP-328

Konsultacije: dogovor putem mejla

Sara Bogdanović, poparic.sara@uns.ac.rs

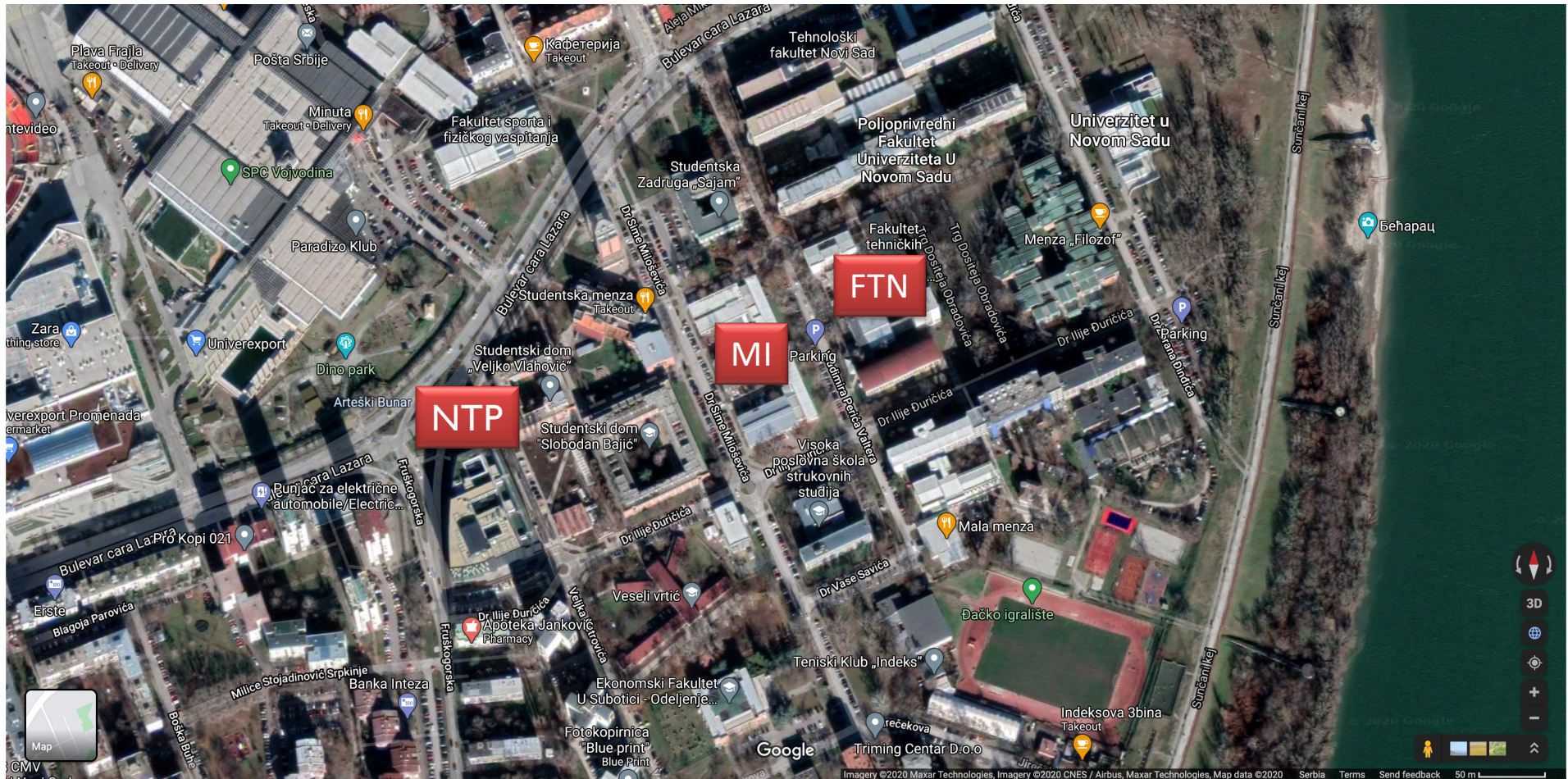
Helena Anišić, hanisic@uns.ac.rs

Nikola Vukić, nikola.vukic@uns.ac.rs

Nevena Gligorov, gligorov.nevena@gmail.com

Danilo Damjanović, ddamjanovic@uns.ac.rs

Zgrade FTN, MI i NTP



Za uništavanje jedne nacije nisu neophodne atomske bombe i projektili dugog dometa.

Dovoljni su snižavanje kvaliteta obrazovanja i dozvoljeno varanje na ispitima.

Pacijenti umiru u rukama doktora koji su položili ispite varajući.

Zgrade se urušavaju u rukama inženjera koji su položili ispite varajući.

Kolaps obrazovanja je kolaps nacije.

– Natpis na ulazu Univerziteta Južna Afrika

Cilj predmeta



Stvaranje **funkcionalno zaokružene slike o radu računara**, pre svega sa stanovišta njegovog korišćenja (**iz ugla programera**)

Teme



- 1. Uvod u arhitekturu i organizaciju računara**
- 2. Brojni sistemi i predstave brojeva**
 - Aritmetika ograničenog broja cifara, predstavljanje realnih brojeva, binarni brojni sistem
- 3. Asemblersko programiranje**
 - Arhitektura naredbi, primeri asemblerskih programa, potprogrami, makro, stek
- 4. Memorija i procesor računara Koncept**
 - Organizacija procesora i memorije, mašinski format naredbi, upravljanje procesorom
- 5. Računar Koncept**
 - Ulazni i izlazni uređaji, vrste memorije, operativni sistem, promena konteksta, prekidi, višekorisnički rad
- 6. Sistemski programi**
- 7. Evolucija arhitekture računara**
- 8. Arhitektura i organizacija savremenih računara**

Organizacija predmeta



Nastava: **4+4** (predavanja i računarske vežbe)

Polaganje: **predispitne (70%) i ispitne (30%) obaveze**

1. Predispitne obaveze – ukupno 70 bodova, minimalno 36 bodova

1. Zadatak 1 (**T12**) – 20 bodova
2. Zadatak 2 (**T34**) – 20 bodova
3. Zadatak 3 (Složeni oblik vežbi – **SOV**) – 30 bodova

2. Ispit – ukupno 30 bodova, minimalno 16 bodova

1. Uslov za izlazak na ispit je osvojenih 36 bodova sa predispitnih obaveza.
2. Parcijalni ispiti u toku semestra (do 30):
 1. Parcijalni ispit **PII** - do 14 bodova
 2. Parcijalni ispit **PI2** - do 16 bodova

Organizacija predmeta

**Nema bodova sa predispitnih obaveza =
nema potpisa**

**36 bodova sa predispitnih obaveza =
uslov za izlazak na ispit**

Kreativnost i priprema ispita



Izvor: [Bill Watterson](#) – [Calvin & Hobbes](#)

Ocenjivanje

51 – 60 : 6

61 – 70 : 7

71 – 80 : 8

81 – 90 : 9

91 – 100 : 10

Sajt predmeta



Sajt predmeta: <https://www.acs.uns.ac.rs/sr/arsiit>

Arhitektura računara – E2, E3 i IN

Stranica sa obaveštenjima, repozitorijum

The screenshot shows the website for 'Arhitektura računara SIIT' at the University of Novi Sad. The header includes the ACS logo (applied computer science) and the university's name in Serbian and English. A navigation menu on the left lists various subjects, with 'Arhitektura računara SIIT' selected. The main content area has tabs for 'osnovni podaci' and 'nastavni plan'. Under 'osnovni podaci', it lists lecturers (Nastavnici) and assistants (Asistenti) with their contact information and consultation methods. A notice section titled '[AR-SIIT] - Termin popravnog' (Correction Exam) is also visible, mentioning the date 31. Avgust 2025 and the location NTP 316 i NTP 317.

Literatura

1. Miroslav Hajduković, Žarko Živanov:

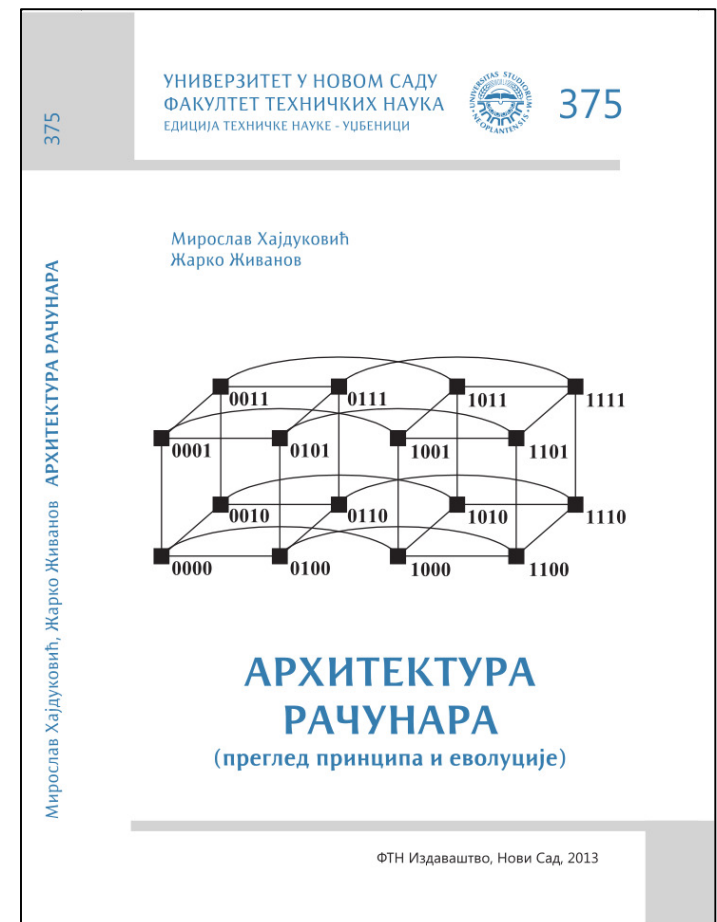
Arhitektura računara

(pregled principa i evolucije)

2. Praktikum za vežbe

3. Sajt predmeta i repozitorijum:

a. www.acs.uns.ac.rs



Dodatna literatura

Andrew S. Tanenbaum
Todd Austin

*Structured Computer
Organization*

6th edition
Pearson, 2012



Dodatna literatura – srpski prevod

Srpsko izdanje:

Andrew S. Tanenbaum

*Arhitektura
i organizacija
računara*

Prevod 5. izdanja
Mikroknjiga, 2007.



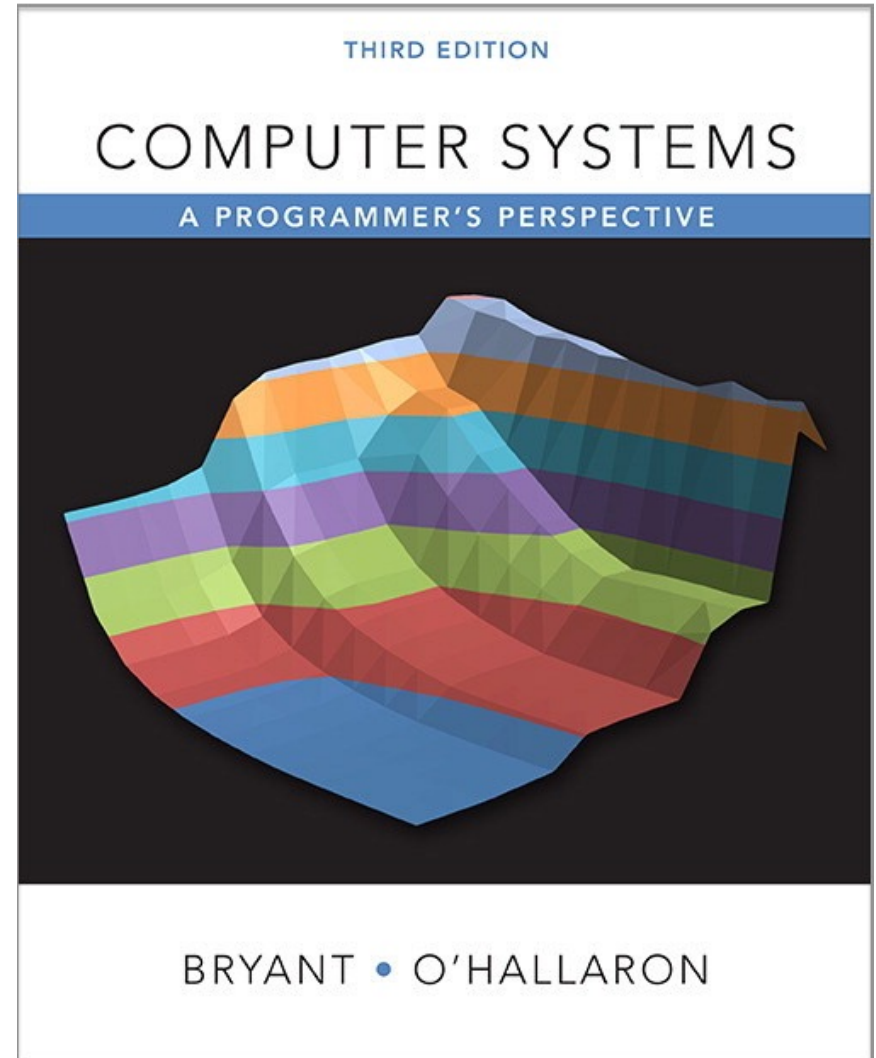
Dodatna literatura – napredni nivo

Randal Bryant,
David O'Hallaron

*Computer Systems:
A Programmer's Perspective*

3rd edition

Pearson, 2015



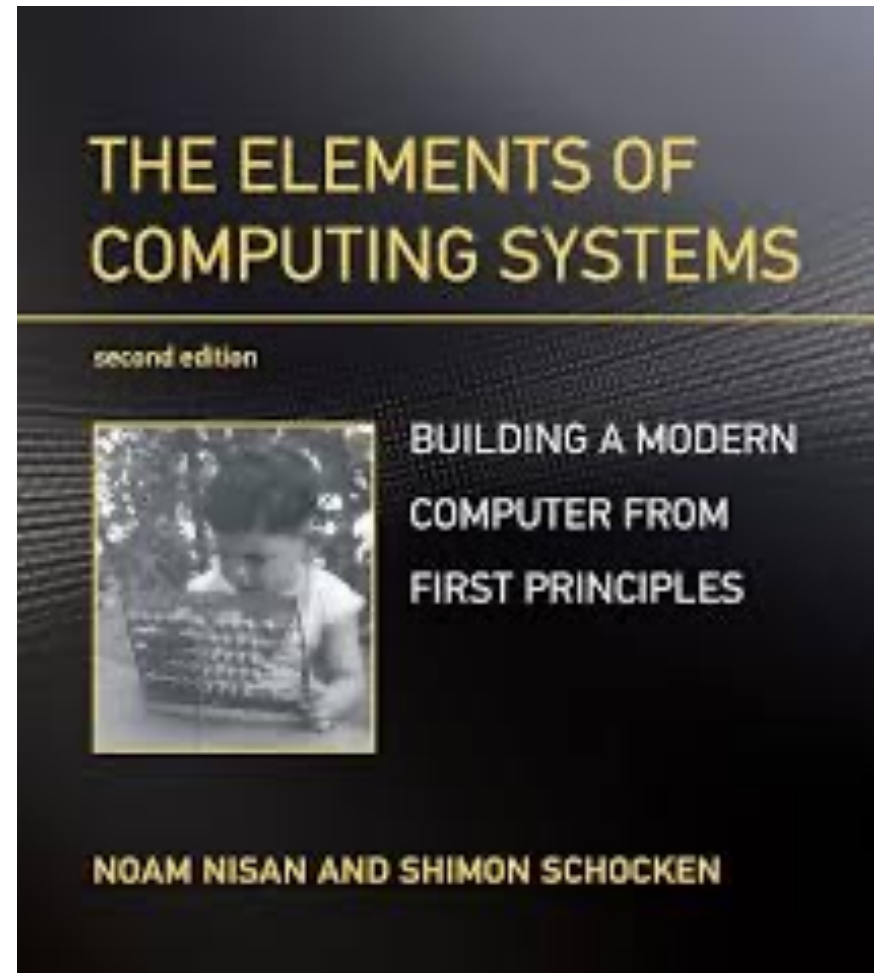
Dodatna literatura

Noam Nissan,
Simon Schocken

*The Elements of
Computing Systems:
Building a Modern Computer
from First Principles*

2nd edition

The MIT Press, 2021



Onlajn kursevi

[From Nand to Tetris](#) – [I \(hardver\)](#) i [II \(softver\)](#)

From Nand to Tetris
Building a Modern Computer From First Principles

Home
Projects
Book
Software
Demos
License
Cool Stuff
Team
Stay in Touch
Q&A

The official website of Nand to Tetris courses

And of the book [The Elements of Computing Systems](#), By [Noam Nisan](#) and [Shimon Schocken](#) (MIT Press)

CHIP SPEC!

NAND OR AND
MUX AND

Onlajn kursevi – napredni nivo

Princeton University – [Computer Architecture](#)

The screenshot shows the Coursera interface for the 'Computer Architecture' course by Princeton University. At the top, there are navigation links for 'For Individuals', 'For Businesses', 'For Universities', and 'For Governments'. The Coursera logo and a search bar are also visible. The course title 'Computer Architecture' is prominently displayed, along with the instructor's name 'David Wentzlaff'. A blue button indicates the course is available for free enrollment starting on November 4th, with over 305,000 students already enrolled. Below this, five key features are highlighted: 21 modules, a 4.7 star rating from 3,722 reviews, an advanced level designed for industry professionals, a flexible schedule of 5 weeks at 10 hours per week, and a 97% learner satisfaction rate. A navigation menu at the bottom includes links for 'About', 'Modules', 'Recommendations', 'Testimonials', and 'Reviews'.

For Individuals For Businesses For Universities For Governments

coursera Explore What do you want to learn? Log In Join for Free

Browse Physical Science and Engineering Electrical Engineering

New! Discover how 91% of learners achieved at least one positive career outcome. [Learn more.](#)

PRINCETON UNIVERSITY

Computer Architecture

Instructor: [David Wentzlaff](#)

Enroll for free
Starts Nov 4

305,631 already enrolled

- 21 modules**
Gain insight into a topic and learn the fundamentals.
- 4.7 ★**
(3,722 reviews)
- Advanced level**
Designed for those already in the industry
- Flexible schedule**
5 weeks at 10 hours a week
Learn at your own pace
- 97%**
Most learners liked this course

[About](#) Modules Recommendations Testimonials Reviews