UNIVERSITETI I PRISHTINËS
UNIVERSITAS STUDIORUM PRISHTINIENSIS

FORMULARI I MODULIT - MODULE TEMPLATE

Emri i modulit **Module Title**	Numerical computation

Obligativ/Mandatory **Zgjedhor/Elective**	Elective	**ECTS**	6

Qëllimet e modulit **Module Aim**	Enable students to apply numerical methods for solving problems.

Rezultatet e të nxënit **Learning Outcomes**	On completion of this course, students will be able to: 1. Apply numerical methods in problem solving situations. 2. Write algorithms and programs implementing numerical methods.

Përmbajtja e modulit **Module Content**	Will include: • Elements of error analysis. Floating point computations. • Numerical solutions for equations of one variable. Fixed point iteration. • Indirect methods for linear systems. • Numerical methods for nonlinear systems. • Polynomial interpolation. • Numerical methods for definite integration. • Numerical methods for ordinary differential equations.

Parakushtet **Pre-Requisite(s)**	Assumed that the students will have had at least one course introducing programming and algorithm analysis.

Kërkesat paralele **Co-Requisite(s)**	None

Strategjitë e mësimdhënies &nxënies **Teaching & Learning Strategies**	Will include: • Lectures on the theoretical background • Practical exercises using a software tool (e.g. MathSci) • Continuous assessment

	• Individual and/or group assignments

Protokolet e vlerësimit
Assessment Protocols

Will include:
• Assessment on applying numerical methods for problem solving
• Assessment on using a software tool for application of numerical methods expertise
• Assessment on using a software tool for programming of numerical methods
• Individual and/or group assignments
• A final examination

Organizimi i mësimit
Delivery Schedule

10	*Laborator(y)*
25	*Ligjërata-Lecture*
10	*Ushtrime-Tutorial*
	Të tjera Other (Specify)

Kohëzgjatja- Duration (h)

Ngarkesa e përgjithsh. (h)
Learner workload (hrs)

Full-time	45
Other	
Workload	90

Zbërthimi i vlerësimi

Assessment Breakdown

CA	*Proj*	*Prac*	*Final*	**Total**
20	20	10	50	100

Bibliografia

Bibliography
Essential & Recommended Texts and/or materials required. Web references as appropriate.

Essential:
1. R. L. Burden, J. D. Faires, *Numerical analysis*, ISBN 0-534-38216-9

Recommended:
2. C. F. Gerald, P. O. Wheatley, *Applied numerical analysis*, ISBN 0-201-56553-6
3. W. H. Press, S. A. Teukolsky, W. T. Vetterling, B. P. Flannery, Numerical recipes in C++ − The art of scientific computing, ISBN 0-521-75033-4
4. K. E. Atkinson, An introduction to numerical analysis, ISBN 0-471-62489-6
5. E. Isaacson, H. B. Keller, *Analysis of numerical methods*, ISBN 0-486-68029-0.

CA- Vlerësimi në klasë/Classroom Assessment
Proj – Projektet/Projects
Prac – Praktika/Practice
Final – Vlerësimi përfundimtar/Final assessment