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M.Tech Course to be offered by
The West Bengal University of Technology

M.Tech in Software Engineering (2007)

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Aim : Students shall be able to analyze, architect, design, plan, develop, and deploy complex software systems, applying state-of-the-practice approaches to software engineering. They shall also be able to apply diverse software engineering methodologies and make principled decisions about an appropriate balance of agile and plan-driven techniques.

First three semesters will carry on the theoretical and practical classes and preliminary work leading to the project work. The last semester will be devoted completely to the project work; collaborative work may also be undertaken.

First semester: Seminar on current literature & critical review of research publications).
Project Work: (3 semesters)
Semester 2 : to decide on the project to be undertaken;
Semesters 3: Project part 1:Preliminary studies needed to handle the project.
Semester 4: Project part 2: Completion of the project and final evaluation to be done in semester 4 through defence of the project.

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Semester – I

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Code	Papers	L	T	P	Credit
PGSE101	Introduction to SE & Project Management	3	0	3	4
PGSE102	Advanced Operating Systems	3	0	3	4
PGSE103	Object Oriented Programming Concepts	3	0	3	4
PGSE104	Advanced Algorithms (L) [L-4,t-0 P-0; credit 4]	4	0	0	4
Seminar (Current Literature Search & Critical Review of Research Publications) with periodic (at least twice) evaluation [credit 2] PGSE191					

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Credit 18

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Semester - II

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Code	Proposed	L	T	P	Credit
PGSE201	Advanced Database Management	3	0	3	4
PGSE202	Object Oriented Software Engineering & UML	3	0	3	4
PGSE203	Principles of Language Translation	3	0	3	4
PGSE204	Testing & Quality Management	3	0	3	4
Seminar on Project (Project Proposal Presentation) [credit 2] PGSE-291					

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Credit 18

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Semester – III:

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Code	Proposed
PGESE301	Elective – I [L-4,t-0 P-0; credit 4]
PGESE302	Elective II [L-4,t-0 P-0; credit 4]
Project – PGPSE391- Part I [credit 10]	

Two electives to be chosen from the electives offered by the department on time to time basis out of the following papers:

PGESE301:
Two electives to be chosen from any one of the papers offered:
    PGSE301A: Image Processing,
    PGSE301B: *Soft Computing,*
    PGSE301C: Neural Network & Neuro Fuzzy Computing,
    PGSE301D: Pattern Recognition & Machine Learning,
    PGSE301E: Mobile Computing,
    PGSE301F: Advanced Search & Optimisation Techniques,
    PGSE301G: Digital Signal Processing,
    PGSE301H: Programmable Hardware & Reconfigurable Computing,
    PGSE301I: Mobile Computing,
    PGSE301J Network Security.
    PGSE301K Coding Principles and Programming Techniques ,
    PGSE301L Advanced Computer Networks & Mobile Computing ,

Elective Papers:

Any one from the following subjects for both General (A) and Embedded Technology (B) courses.
    PGSE302A: Image Processing,
    PGSE302B: *Soft Computing,*
    PGSE302C: Neural Network & Neuro Fuzzy Computing,
    PGSE302D: Pattern Recognition & Machine Learning,
    PGSE302E: Mobile Computing,
    PGSE302F: Advanced Search & Optimisation Techniques,
    PGSE302G: Digital Signal Processing,
    PGSE302H: Programmable Hardware & Reconfigurable Computing,
    PGSE302I: Mobile Computing,
    PGSE302J Network Security.
    PGSE302K Coding Principles and Programming Techniques ,
    PGSE302L Advanced Computer Networks & Mobile Computing ,

Semester – IV

Project – Part II Project Completion means the candidate is expected to make some original contribution. PGPSE 491[credit 18]

Credit 18