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| Course | **Prerequisites** |
| #Electrical Circuit Analysis  ([CSE104/CEN104 + Lab)](http://www.cse.iub.edu.bd/courses/36) | [PHY 102 + Lab : University Physics - II](http://www.cse.iub.edu.bd/courses/34) |
| #[Discrete Mathematics](http://www.cse.iub.edu.bd/courses/31)  ([CSE201/CEN201/CSC201)](http://www.cse.iub.edu.bd/courses/36) | [CSC 101+ Lab : Introduction to Computer Programming](http://www.cse.iub.edu.bd/courses/2) |
| #[Data](http://www.cse.iub.edu.bd/courses/40) Structure  ([CSE203/CEN203/CSC203 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #[Discrete Mathematics](http://www.cse.iub.edu.bd/courses/31)  ([CSE201/CEN201/CSC201)](http://www.cse.iub.edu.bd/courses/36) |
| #[Digital Logic Design](http://www.cse.iub.edu.bd/courses/33)  ([CSE204/CEN204/CSC204 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #Electrical Circuit Analysis  ([CSE104/CEN104 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #Electronics I  ([CSE210/CEN210 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #Electrical Circuit Analysis  ([CSE104/CEN104 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #[Data](http://www.cse.iub.edu.bd/courses/40) Structure  ([CSE203/CEN203/CSC203 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #[Data](http://www.cse.iub.edu.bd/courses/40) Structure  ([CSE203/CEN203/CSC203 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #Computer Organization and Architecture ([CSE214/CEN311/CSC311)](http://www.cse.iub.edu.bd/courses/36) | #[Digital Logic Design](http://www.cse.iub.edu.bd/courses/33)  ([CSE204/CEN204/CSC204 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #[Microprocessor, Interfacing and Assembly Language](http://www.cse.iub.edu.bd/courses/39) ([CSE216/CEN212/CSC212 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #Computer Organization and Architecture ([CSE214/CEN311/CSC311)](http://www.cse.iub.edu.bd/courses/36) |
| #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #[Data](http://www.cse.iub.edu.bd/courses/40) Structure  ([CSE203/CEN203/CSC203 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #[System Analysis and Design](http://www.cse.iub.edu.bd/courses/41)  ([CSE307/CSC405)](http://www.cse.iub.edu.bd/courses/36) #CEN405 | #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| [#Web Applications and Internet](http://www.cse.iub.edu.bd/courses/42)  ([CSE309/CSC455)](http://www.cse.iub.edu.bd/courses/36) #CEN455 | #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #Electronics I  ([CSE210/CEN210 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| [#Finite Automata and Computability](http://www.cse.iub.edu.bd/courses/7) (CSC301) (Optional for CSE) | #[Discrete Mathematics](http://www.cse.iub.edu.bd/courses/31)  ([CSE201/CEN201/CSC201)](http://www.cse.iub.edu.bd/courses/36) |
| #Compiler Construction ([CSE313/CSC313)](http://www.cse.iub.edu.bd/courses/36" \t "_blank) | #Computer Organization and Architecture ([CSE214/CEN311/CSC311)](http://www.cse.iub.edu.bd/courses/36) [#Finite Automata and Computability](http://www.cse.iub.edu.bd/courses/7) (CSC301) |
| #[Design of Operating System](http://www.cse.iub.edu.bd/courses/45) ([CSE315/CEN413/CSC413)](http://www.cse.iub.edu.bd/courses/36) | #[Data](http://www.cse.iub.edu.bd/courses/40) Structure  ([CSE203/CEN203/CSC203 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Microprocessor, Interfacing and Assembly Language](http://www.cse.iub.edu.bd/courses/39) ([CSE216/CEN212/CSC212 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) | #[Discrete Mathematics](http://www.cse.iub.edu.bd/courses/31)  ([CSE201/CEN201/CSC201)](http://www.cse.iub.edu.bd/courses/36)  #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) | [MAT 104 : Calculus and Analytical Geometry](http://www.cse.iub.edu.bd/courses/27) [MAT 212 : Probability & Statistics for Science and Engineering](http://www.cse.iub.edu.bd/courses/29)  #Algorithms ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
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| Optional Course | **Prerequisites** |
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| CSE 400: Data Communication | #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 402: Wireless Networking and Mobile Communication | #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 403: Network Management | #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 406: Cryptography and Network Security | #Electronics I  ([CSE210/CEN210 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 407: Telecommunication Engineering | #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 408: Advanced Computer Network | #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 409: Optical Fiber Communication | #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 413: Advanced Database Management Systems | #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 414: Database Systems Implementation | #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 416: Distributed Database Systems | #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 417: Data Mining and Warehouse | #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Database Management](http://www.cse.iub.edu.bd/courses/40)  ([CSE303/CEN401/CSC401 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 418: E-commerce and Web Database | [#Web Applications and Internet](http://www.cse.iub.edu.bd/courses/42)  ([CSE309/CSC455)](http://www.cse.iub.edu.bd/courses/36) #CEN455 |
| #[Image Processing](http://www.cse.iub.edu.bd/courses/60)  ([CSE420/CEN420/CSC420)](http://www.cse.iub.edu.bd/courses/36) | #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 421: Machine Learning | [#Artificial Intelligence](http://www.cse.iub.edu.bd/courses/65)  ([CSE425/CEN425/CSC425)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 422: Pattern Recognition | [#Artificial Intelligence](http://www.cse.iub.edu.bd/courses/65)  ([CSE425/CEN425/CSC425)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 423: Theory of Fuzzy Systems | #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 424: Neural Networks | [#Artificial Intelligence](http://www.cse.iub.edu.bd/courses/65)  ([CSE425/CEN425/CSC425)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 425: Artificial Intelligence | #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 426: Introduction to Robotics | #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36)  [#Artificial Intelligence](http://www.cse.iub.edu.bd/courses/65)  ([CSE425/CEN425/CSC425)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 427: Computer Simulation and Modelling | #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 428: Computer Vision | #[Image Processing](http://www.cse.iub.edu.bd/courses/60)  ([CSE420/CEN420/CSC420)](http://www.cse.iub.edu.bd/courses/36)  [#Artificial Intelligence](http://www.cse.iub.edu.bd/courses/65)  ([CSE425/CEN425/CSC425)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 431: Advanced Object Oriented Programming | #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 433: Introduction to Parallel Programming | #[Linear Algebra: Vectors and Matrices](http://www.cse.iub.edu.bd/courses/247)  (MAT203)  #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 435: Computer Graphics | #[Linear Algebra: Vectors and Matrices](http://www.cse.iub.edu.bd/courses/247)  (MAT203)  #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 436: Multimedia Systems | #[Linear Algebra: Vectors and Matrices](http://www.cse.iub.edu.bd/courses/247)  (MAT203)  #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #[Object-Oriented Programming](http://www.cse.iub.edu.bd/courses/37)  ([CSE213/CEN305/CSC305 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 437: Theory of Computation and Automata | #[Discrete Mathematics](http://www.cse.iub.edu.bd/courses/31)  ([CSE201/CEN201/CSC201)](http://www.cse.iub.edu.bd/courses/36)  #Algorithms  ([CSE211/CEN306/CSC306 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 441: Instrumentation and Measurements | #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 442: Embedded Systems | #[Microprocessor, Interfacing and Assembly Language](http://www.cse.iub.edu.bd/courses/39) ([CSE216/CEN212/CSC212 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 443: Digital Signal Processing | #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #Numerical Methods  ([CSE317/CEN317/CSC317 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 444: Digital Electronics and Pulse Techniques | #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 446: Digital System Design | #[Digital Logic Design](http://www.cse.iub.edu.bd/courses/33)  ([CSE204/CEN204/CSC204 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 447: Computer Peripherals and Interfacing | #[Microprocessor, Interfacing and Assembly Language](http://www.cse.iub.edu.bd/courses/39) ([CSE216/CEN212/CSC212 + Lab)](http://www.cse.iub.edu.bd/courses/36)  #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 448: VLSI Design and Testing | #Electronics II  ([CSE310/CEN310 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 449: Fault Tolerant System | #Electronics I  ([CSE210/CEN210 + Lab)](http://www.cse.iub.edu.bd/courses/36) |
| #[Software Engineering](http://www.cse.iub.edu.bd/courses/83) ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) | #[System Analysis and Design](http://www.cse.iub.edu.bd/courses/41)  ([CSE307/CSC405)](http://www.cse.iub.edu.bd/courses/36) #CEN405 |
| CSE 452: Software Marketing | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 453: Software Requirement Engineering | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 454: Software Engineering Process Management | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 456: Business Process Reengineering | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 457: Project Management | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 458: Software Quality and Testing | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 459: Software Architecture and Component-Based Design | None |
| CSE 461: Advance Topics for Application Development | [#Web Applications and Internet](http://www.cse.iub.edu.bd/courses/42)  ([CSE309/CSC455)](http://www.cse.iub.edu.bd/courses/36) #CEN455  #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 462: Entrepreneurship Development | #[Software Engineering](http://www.cse.iub.edu.bd/courses/83)  ([CSE451/CEN451/CSC451)](http://www.cse.iub.edu.bd/courses/36)  #[Software Marketing](http://www.cse.iub.edu.bd/courses/84) ([CSE452/CEN452/CSC452)](http://www.cse.iub.edu.bd/courses/36) |
| CSE 463: IT Forensic | #[Design of Operating System](http://www.cse.iub.edu.bd/courses/45) ([CSE315/CEN413/CSC413)](http://www.cse.iub.edu.bd/courses/36)  #[Data Communication and Computer Networks](http://www.cse.iub.edu.bd/courses/46) ([CSE316/CEN430/CSC430 + Lab)](http://www.cse.iub.edu.bd/courses/36) |