

# THE FABRIC OF THE COSMOS

*SPACE, TIME, QUANTUM, MULTIVERSE*

4 X 53 <sup>HD</sup>



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Acclaimed physicist and host Brian Greene lets NOVA viewers in on a secret: we've all been deceived. Our perceptions of time and space have led us astray. Much of what we thought we knew about our universe—that the past has already happened and the future is yet to be, that space is just an empty void, that our universe is the only universe that exists—just might be wrong.

In *The Fabric of the Cosmos*, Greene takes viewers on a mind-bending reality check and journeys to the frontiers of physics to see how scientists are piecing together the most complete picture yet of space, time, and the universe. With each step, audiences will discover that just beneath the surface of our everyday experience lies a world we'd hardly recognize—a startling world far stranger and more wondrous than anyone expected.

## Episode One: What is Space?

Space. It separates you from me, one galaxy from the next, and atoms from each other. It is everywhere in the universe. But to most of us, space is nothing, an empty void. Well, it turns out space is not what it seems. From the passenger seat of a New York cab driving near the speed of light to a pool hall where billiard tables do fantastical things, Brian Greene reveals space as a dynamic fabric that can stretch, twist, warp, and ripple under the influence of gravity.

## Episode Two: The Illusion of Time

Time. We waste it, save it, kill it, make it. The world runs on it. Yet, ask physicists what time actually is, and the answer might shock you: they have no idea. Even more surprising, the deep sense we have of time passing from present to past may be nothing more than an illusion. How can our understanding of something so familiar be so wrong? In search of answers, Brian Greene takes us on the ultimate time traveling adventure, hurtling 50 years into the future before stepping into a wormhole to travel back to the past.

## Episode Three: Quantum Leap

Join Brian Greene on a wild ride into the weird realm of quantum physics, which governs the universe on the tiniest of scales. Greene brings quantum mechanics to life in a nightclub like no other, where objects pop in and out of existence and things over here can affect others over there, instantaneously—without anything crossing the space between them.

## Episode Four: Universe or Multiverse?

Hard as it is to swallow, cutting-edge theories are suggesting that our universe may not be the only universe. Instead, it may be just one of an infinite number of worlds that make up the multiverse. Brian Greene takes us on a tour of this brave new theory at the frontier of physics, explaining why scientists believe it's true and showing what some of these alternate realities might be like.

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CREDITS

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