Missions:

Most Universities or rather student led missions for Satellite launches revolve around the general topics of providing hands-on training & knowledge to the students, building of resources and other such topics. Including the objectives of communication, in-orbit operation and collection of the payload data, helps enhance the mission/application of the satellite. The research modules could be focused on the application of satellites in a developing country like India for- like earth resource management, disaster management, atmospheric monitoring and so on.

Several of the early years’ missions were to test out new technology in space, to broaden the uses of satellites, to develop low cost – high efficiency technology for satellites. The recent years’ missions still revolve around similar topics along with the enhancement of previously researched domains.

Here is a rough overview of the various types of missions over the years:

1998-2000: Communication establishment from satellite to satellite, from satellite to ground stations(vice-versa), and validation of MEMS radio frequency switches.

2001-2005: Imaging/testing of cameras, deployment mechanisms, testing different transmission techniques

2006-2008: Testing of various sensors and using the same, tracking, testing different aspects of GPS, improving means of communication, tethering

2009-2011: Different types of payloads, studying the atmosphere (like CO2 levels, plasma formations), collecting data from sensors to gain relevant insight

2012-2014: Testing of various types on-board units, constellation formations, system upgrades, attitude control

2015-2017: Extensive usage by Navy, Army, Government, Scientists, improvement in the technology being used by satellites and experiments in the same domain, commercial satellites, radio communication with constellations

The applications for a satellite can be determined based on the payload of the satellite. By choosing the appropriate payload, useful data can be collected with researches held about the same. Many complex missions require the launching of subsequent satellites for improved results.