

# Minor in Space Sciences Dept. of SPASE, IIT Kanpur

The Department of SPASE offers a Minor Degree in space sciences if an undergraduate student satisfactorily completes the following requirements.

**CREDIT REQUIREMENTS:** A student has to do 36 credits to fulfil minor requirements which includes one compulsory and three elective courses of the SPASE department.

Course type	Course List
Compulsory Course	<ul style="list-style-type: none"> <li>SPA201: Introduction to Astronomy &amp; Astrophysics</li> </ul>
<ul style="list-style-type: none"> <li>Elective courses amounting to a minimum of <u>27 credits</u> offered by SPASE department.</li> </ul> <p>Except:</p> <ul style="list-style-type: none"> <li>SPA622M (5 credits) Mathematical Techniques in Space Sciences &amp; Engineering</li> <li>SPA623M (5 credits) Numerical Techniques in Space Sciences &amp; Engineering</li> <li>SPA631M (5credits) Statistical Methods and Applications in Space Sciences</li> <li>SPA632M (5credits) Introduction to Mathematical Transforms and Applications in Space Sciences</li> </ul>	<ul style="list-style-type: none"> <li>SPA401: Galaxies &amp; Observational Cosmology</li> <li>SPA402: Introduction to Manmade Satellite Systems and its Environment</li> <li>SPA404: Introduction to Space Technology</li> <li>SPA616: Stars and Stellar Evolution</li> <li>SPA601: Introduction to space &amp; astronomical instrumentation</li> <li>SPA603: Solar system processes and space missions</li> <li>SPA611: Radio Astronomy</li> <li>SPA636M: Radio instrumentation, observing techniques and data analyses (Radio Lab)</li> <li>SPA621: Planetary surface processes</li> <li>SPA614M: Introduction to Celestial Mechanics</li> <li>SPA618M: Introduction to radiative processes in space</li> <li>SPA627M: Introduction to fluid mechanics in space</li> <li>SPA633: Introduction to Astrobiology</li> <li>SPA634: Applied Optics: From Rays to Waves</li> <li>SPA637: Spacecraft Dynamics</li> </ul>
<b>Total Credits</b>	<b>36</b>

Remarks: All future courses from the department, except the ones entirely related to mathematical methods or numerical techniques will be available as elective courses to complete minor.