

Seq. No.	Topic
1	Welcome to the SPICE Tutorials and Programming Lessons
2	Installing the Toolkit
3	Preparing for programming
4	SPICE overview
5	Fundamental concepts of observation geometry
6	SPICE conventions
7	NAIF IDs and Names
8	Intro to kernel files
9	Comments (meta-data) in SPICE kernels
10	Intro to SPICE Toolkit: libraries, utilities, applications, documentation
11	Using Module (API) Headers
	Lesson #1 Navigating through the SPICE Toolkit documentation
	Lesson #2 Practice building a program: call module TK_Version
12	An introduction to WebGeocalc (WGC), an on-line geometry engine
13	Time: systems, formats and conversions
14	LSK and SCLK (Data used in time system conversions)
	Starting the Remote Sensing Lessons: 5 parts
	Most of the lessons have an associated diagram depicting the objectives
	In each lesson consider also doing the extra credit portions
	Consider repeating some lessons using the WebGeocalc version and tool
	Lesson #3 Remote Sensing: time conversions
15	SPK (Ephemeris data)
	Lesson #4 Remote Sensing: obtaining target states and positions
16	Reference Frames and Coordinate Systems in the SPICE Context
17	PcK (Planetary constants data)
18	CK (Orientation data)
19	FK (Reference frames specifications and data)
20	Using the frames kernel in conjunction with other kernels
	Lesson #5 Remote Sensing: spacecraft orientation and reference frames
21	DSK (Digital Shape Kernel)
22	Computing derived quantities
	Lesson #6 Remote Sensing: computing sub-s/c and sub-solar points
23	IK (Instrument information)
24	Reading FKs and IKs
	Lesson #7 Remote Sensing: intersecting vectors with a triaxial ellipsoid and with a DSK; computing illumination angles
25	GF - Geometry Finder Subsystem Overview
26	Exception handling (Detecting and handling errors)
27	Common Problems - An introduction
28	Toolkit applications: chronos, spkmerge, mkspk, etc.
	Lesson #8 Practice using some toolkit apps: e.g. chronos, commnt, spkdiff, ckbrief, (Note: no WGC version)
29	Non-Toolkit Apps (Not in generic Toolkits; available from NAIF server)
30	The NAIF Server and Horizons Server
31	Summary of Key Points
32	SPICE development plans
	Read the overview of the "In-situ" lesson
	Read the overview of the "Event finding" lesson
	Read the overview of the "Binary PCK" lesson
	Read the overview of the "Other Stuff" lesson
	Lesson #9 Pick one or more from the above four lessons (No WGC)
	End of major tutorials and lessons

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	Additional tutorials: read as appropriate to your interests
A1	Motivation for building SPICE
A2	Porting kernels between dissimilar computers
A3	IDL interface to CSPICE
A4	Matlab interface to CSPICE
A5	Other useful SPICELIB/CSPICE functions
A6	Special lunar and earth binary PCKs and FKs
A7	Dynamic frames: how to define many kinds of reference frames
A8	Making an SPK file
A9	Making a CK file
A10	EK (Events kernel)
	"Paper" Programming Example
	Before NAIF had prepared the programming lessons seen above, we offered a PowerPoint version of a practical programming exercise. You may or may not find it useful.
P1	Matlab programming example
P2	IDL programming example
P3	C programming example
P4	Fortran programming example