<!doctype html><html lang="en"><head><meta charset="utf-8"><title>Data Analysis Using R — Course content</title><style>
@page { size: A4; margin: 16mm 15mm 18mm; }
* { box-sizing: border-box; }
body { margin: 0; font: 10.5pt/1.5 'Segoe UI', Inter, Arial, sans-serif; color: #13233D; }
h1, h2, h3 { font-family: 'Segoe UI Semibold', 'Segoe UI', Arial, sans-serif; color: #173358; margin: 0; }
.top { display: flex; justify-content: space-between; align-items: center; padding-bottom: 10px; border-bottom: 3px solid #28C09C; }
.top img { height: 40px; }
.top .tag { font: 8pt 'Consolas', monospace; letter-spacing: .12em; text-transform: uppercase; color: #0F7A60; }
.hero { padding: 18px 0 8px; }
.area { display: inline-block; font: 8pt 'Consolas', monospace; letter-spacing: .1em; text-transform: uppercase; padding: 3px 8px; border-radius: 99px; }
.area.bi { background: #FEF3E2; color: #B45309; } .area.data { background: #E6F7F1; color: #0F7A60; }
.area.ai { background: #EEF0FF; color: #4F46E5; }
h1 { font-size: 22pt; line-height: 1.15; margin: 8px 0 8px; }
.overview { color: #4A5A73; margin: 0 0 12px; }
.facts { display: flex; border: 1px solid #DCE2EA; border-radius: 8px; overflow: hidden; margin: 6px 0 14px; }
.facts div { flex: 1; padding: 7px 10px; border-right: 1px solid #DCE2EA; }
.facts div:last-child { border-right: 0; }
.facts dt { font: 7pt 'Consolas', monospace; letter-spacing: .08em; text-transform: uppercase; color: #4A5A73; }
.facts dd { margin: 2px 0 0; font-weight: 600; font-size: 9.5pt; color: #173358; }
h2 { font-size: 13pt; margin: 16px 0 6px; padding-bottom: 3px; border-bottom: 1px solid #DCE2EA; }
.pills { display: flex; flex-wrap: wrap; gap: 5px; margin: 0; padding: 0; list-style: none; }
.pills li { padding: 2px 8px; border: 1px solid #DCE2EA; border-radius: 5px; font-size: 9pt; }
ul.check { margin: 0; padding: 0; list-style: none; columns: 2; column-gap: 18px; }
ul.check li { break-inside: avoid; padding-left: 14px; position: relative; margin-bottom: 3px; }
ul.check li::before { content: "\2713"; position: absolute; left: 0; color: #0F7A60; font-weight: 700; }
.module { break-inside: avoid; border: 1px solid #DCE2EA; border-radius: 8px; padding: 8px 12px; margin-bottom: 7px; }
.module h3 { font-size: 10.5pt; display: flex; gap: 8px; align-items: baseline; }
.module .no { font: 8pt 'Consolas', monospace; color: #0F7A60; background: #EAF8F3; padding: 1px 6px; border-radius: 4px; white-space: nowrap; }
.module h4 { font-size: 9pt; margin: 6px 0 2px; color: #173358; }
.module ul { margin: 4px 0 0; padding-left: 16px; columns: 2; column-gap: 18px; font-size: 9.2pt; color: #3D4559; }
.module li { break-inside: avoid; }
table { width: 100%; border-collapse: collapse; font-size: 9pt; }
th, td { text-align: left; padding: 5px 8px; border-bottom: 1px solid #EEF1F5; vertical-align: top; }
th { background: #F7F9FB; color: #173358; }
td:first-child { font-weight: 600; color: #173358; width: 34%; }
.box { break-inside: avoid; background: #EAF8F3; border-left: 3px solid #28C09C; padding: 8px 12px; border-radius: 0 6px 6px 0; }
.cta { break-inside: avoid; margin-top: 18px; padding: 12px 14px; background: #0F2340; color: #fff; border-radius: 8px; display: flex; justify-content: space-between; gap: 12px; font-size: 9.5pt; }
.cta strong { color: #5FD3B4; }
.foot { margin-top: 10px; font-size: 8pt; color: #8A96A8; text-align: center; }
</style></head><body>

Course content · Updated Oct 2026 Data & Analytics<h1>Data Analysis Using R</h1> Practical skills for using R and RStudio to import, clean, transform, analyse, visualise and interpret data. You work with common data formats — including SPSS files — and apply descriptive and inferential statistical techniques to real-world datasets. <dl class="facts"> <dt>Duration</dt><dd>Confirmed at enrollment</dd> <dt>Structure</dt><dd>7 modules</dd> <dt>Level</dt><dd>Beginner → Intermediate</dd> <dt>Mode</dt><dd>Physical or live online</dd> </dl> <h2>What you'll be able to do</h2><ul class="check">
Work confidently in R and RStudio with scripts, packages and core data structures
Import and export Excel, CSV and SPSS data and check it on

arrival
Clean, manage, merge and append datasets using keys and matching variables
Create calculated, recoded and categorised variables ready for analysis
Produce descriptive statistics, frequency tables and cross-tabulations
Choose and run t-tests, ANOVA, chi-square, correlation and regression, and interpret p-values and confidence intervals
Build clear charts in R and export tables, charts and results for reports
Produce a Quarto report that reruns on next month’s data with one click
<h2>Tools</h2><ul class="pills">
R
RStudio
R packages
Excel (.xlsx)
CSV
SPSS (.sav)
Quarto
<h2>Before you start</h2> None. R, RStudio and the statistical concepts are all taught from the start. Familiarity with survey or spreadsheet data helps. A laptop you can install R and RStudio on. <h2>Curriculum</h2> <h3>Module 1R environment and data fundamentals</h3><h4>Introduction to R and RStudio</h4>
Introduction to R programming
RStudio interface and workspace
R scripts and the R console
Packages and libraries
Basic R syntax and data structures
Using an AI assistant to write and explain R code — and checking it
<h4>Understanding data</h4>
Introduction to data analysis
Sample questionnaire and dataset structure
Variables and observations
Data types and properties
Categorical and numerical variables
<h4>Working with data formats</h4>
Excel (.xlsx)
CSV (.csv)
SPSS (.sav)
Other commonly used data formats <h3>Module 2Data import, cleaning and management</h3><h4>Data import and export</h4>
Importing Excel, CSV and SPSS data
Exporting processed datasets
Checking imported data
<h4>Data cleaning</h4>
Find and replace
Missing values
Identifying duplicate records
Removing duplicates
Data consistency checks
<h4>Data management</h4>
Create, read, update and delete (CRUD)
Sorting data
Selecting variables and records
Filtering data
Comparing datasets
<h4>Combining datasets</h4>
Merging datasets
Joining datasets
Appending / combining datasets
Understanding keys and matching variables <h3>Module 3Data transformation and preparation</h3>
<h4>Calculations and formulas</h4>
Creating calculated variables
Applying formulas
Conditional calculations
<h4>Recoding data</h4>
Recoding categorical variables
Recoding numerical variables
Handling special / missing codes
<h4>Text and string processing</h4>
Cleaning text data
String manipulation
Extracting and modifying text
<h4>Data categorization</h4>
Creating categories
Grouping numerical values
Creating analysis-ready variables
<h3>Module 4Descriptive data analysis</h3>
<h4>Descriptive statistics</h4>
Mean
Median
Mode
Standard deviation
Minimum and maximum
Range
Quartiles
<h4>Frequency analysis</h4>
Frequency tables
Counts
Percentages
Proportions
<h4>Cross-tabulation</h4>
Two-way tables
Pivot-style summaries
Grouped summaries <h3>Module 5Statistical analysis</h3><h4>Statistical concepts</h4>
Hypothesis testing
Null and alternative hypotheses
P-value
Confidence intervals
Statistical significance
Selecting an appropriate statistical test
<h4>Statistical tests</h4>
Independent and paired t-test
ANOVA
Chi-square test
Correlation analysis
Regression analysis <h3>Module 6Data visualization and reporting</h3><h4>Visualization fundamentals</h4>
Principles of effective visualization
Choosing the appropriate chart
Understanding variables and visualization types
<h4>Charts and graphs</h4>
Bar chart
Histogram
Box plot
Pie chart
Line chart
Scatter plot
Other appropriate visualizations
<h4>Creating visualizations in R</h4>
Generate charts using R
Customise titles, labels and axes
Compare groups
Visualise distributions and relationships
<h4>Exporting results</h4>
Export charts
Export tables
Export analysis results
Prepare outputs for reports and presentations
Reproducible reports with Quarto (HTML, Word and PDF) <h3>
Module 7Applied data analysis project</h3><h4>End-to-end data analysis project</h4>
Raw data → import → cleaning → transformation → descriptive analysis → statistical analysis → visualization → interpretation → final output
<h4>Certification</h4>
Project completion
Practical assessment
Course completion / certification <h2>Your project</h2> Module 7 is an end-to-end project: raw data → import → cleaning → transformation → descriptive analysis → statistical analysis → visualization → interpretation → final output. <h2>Certification</h2> Certification requires completing the project and passing a practical assessment. <h2>Where this is used</h2><table>
<thead><tr><th>Application area</th><th>Typical applications</th></tr></thead><tbody><tr><td>Business & corporate analytics</td><td>Sales analysis, customer analysis, business performance, market analysis</td></tr><tr><td>Research & survey analysis</td><td>Questionnaire data, survey cleaning, descriptive statistics, hypothesis testing</td></tr><tr><td>Banking & finance</td><td>Customer

analysis, financial data analysis, risk-related analysis, reporting</td></tr><tr><td>Marketing analytics</td><td>Customer segmentation, campaign analysis, customer behaviour and survey analysis</td></tr><tr><td>Healthcare & public health</td><td>Patient datasets, health surveys, disease-related research, statistical analysis</td></tr><tr><td>Education & academic research</td><td>Student performance, surveys, assessments, research data and statistical testing</td></tr><tr><td>Government & development sector</td><td>Census / survey data, socioeconomic research, programme monitoring and evaluation</td></tr><tr><td>NGOs & INGOs</td><td>Survey analysis, project evaluation, beneficiary data, monitoring and reporting</td></tr><tr><td>Social science research</td><td>Demographic analysis, behavioural research, questionnaire analysis and hypothesis testing</td></tr><tr><td>Hospitality & tourism</td><td>Customer satisfaction, preferences, service-quality and tourism survey analysis</td></tr><tr><td>Manufacturing & operations</td><td>Quality analysis, production data, process performance and operational reporting</td></tr><tr><td>HR & people analytics</td><td>Employee surveys, workforce analysis, performance and retention-related analysis</td></tr><tr><td>Data-driven reporting</td><td>Automated analysis, statistical summaries, charts and report-ready outputs</td></tr></tbody></table> Register for the next batch
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info.gexontraining@gmail.com · Lalitpur, Nepal Batch dates, schedule and fee are confirmed at enrollment. </body></html>