Overview
This course first introduces beginners to basic Python programming and community best practices such as using Jupyter/IPython. The course then moves on to show how Python can be applied to data mining, analytics, data science and artificial intelligence projects. At the end of this course, participants will gain an overview of the Python ecosystem as well as the skills necessary to self-learn and continue on their Python learning journey.

Programme outline

DAY 1
• Python Basics Part 1: Introducing Python environments, data structures and control flow
• Python Basics Part 2: Reading files into Python, Python Modules, Classes and code structure
• Working with Data Sources
• Making a Data Product

DAY 2
• Introduction to Data Exploration and Wrangling with the Pandas library
• Introduction to Data Visualization with the matplotlib library
• Introduction to key Data Science and Artificial Intelligence algorithms with the Sci-kit Learn and Keras libraries

Pre-requisites
• Basic scripting or programming experience in other languages is recommended.
• Familiarity with:
  - manipulating and graphing spreadsheet data
  - basic statistical concepts such as mean, standard deviation and confidence intervals
  - command-line shell such as bash/zsh or CMD/Powershell is recommended

Who should attend
Data Analysts, Software Engineers, Applied Statisticians or others in similar roles looking to improve their work processes with a flexible and fast-growing programming language.
## Fees

<table>
<thead>
<tr>
<th>Category</th>
<th>Singapore Citizens(^1)</th>
<th>Singapore Citizens(^1)</th>
<th>Singapore PRs ≥ 21 yrs old</th>
<th>Enhanced Training Support for SMEs(^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Requirement</td>
<td>21 — 39 yrs old</td>
<td>≥ 40 yrs old(^2)</td>
<td>≥ 21 yrs old</td>
<td></td>
</tr>
<tr>
<td>Fee (incl. GST)</td>
<td>S$ 481.50</td>
<td>S$ 181.50</td>
<td>S$ 481.50</td>
<td>S$ 181.50</td>
</tr>
</tbody>
</table>

\(^1\) Singapore Citizens
\(^2\) Singapore Citizens aged 40 and above
\(^3\) Singapore Citizens aged 21 - 39 years old
\(^4\) Enhanced Training Support for SMEs

Information is accurate as of March 2018. NUS SCALE reserves the right to change the information at any time without prior notice.
## Fees and fundings

<table>
<thead>
<tr>
<th></th>
<th>International Participants</th>
<th>Singapore Citizens(^1) 21 — 39 yrs old</th>
<th>Singapore Citizens(^1) ≥ 40 yrs old(^2)</th>
<th>Singapore Citizens(^1) Eligible for WTS(^3)</th>
<th>Singapore PRs ≥ 21 yrs old</th>
<th>Enhanced Training Support for SMEs(^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Programme Fee</td>
<td>S$1,500.00</td>
<td>S$1,500.00</td>
<td>S$1,500.00</td>
<td>S$1,500.00</td>
<td>S$1,500.00</td>
<td>S$1,500.00</td>
</tr>
<tr>
<td>SkillsFuture Funding</td>
<td>–</td>
<td>(S$1,050.00)</td>
<td>(S$1,050.00)</td>
<td>(S$1,050.00)</td>
<td>(S$1,050.00)</td>
<td>(S$1,050.00)</td>
</tr>
<tr>
<td>Nett Programme Fee</td>
<td>S$1,500.00</td>
<td>S$450.00</td>
<td>S$450.00</td>
<td>S$450.00</td>
<td>S$450.00</td>
<td>S$450.00</td>
</tr>
<tr>
<td>7% GST on Nett Programme Fee</td>
<td>S$105.00</td>
<td>S$31.50</td>
<td>S$31.50</td>
<td>S$31.50</td>
<td>S$31.50</td>
<td>S$31.50</td>
</tr>
<tr>
<td><strong>Total Nett Programme Fee Payable, Incl. GST</strong></td>
<td><strong>S$1,605.00</strong></td>
<td><strong>S$481.50</strong></td>
<td><strong>S$481.50</strong></td>
<td><strong>S$481.50</strong></td>
<td><strong>S$481.50</strong></td>
<td><strong>S$481.50</strong></td>
</tr>
<tr>
<td>Less Additional Funding if Eligible Under Various Scheme</td>
<td>–</td>
<td>–</td>
<td>(S$300.00)</td>
<td>(S$375.00)</td>
<td>–</td>
<td>(S$300.00)</td>
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<tr>
<td><strong>Total Nett Programme Fee, Incl. GST, after additional funding from the various funding schemes</strong></td>
<td><strong>S$2,247.00</strong></td>
<td><strong>S$481.50</strong></td>
<td><strong>S$181.50</strong></td>
<td><strong>S$106.50</strong></td>
<td><strong>S$481.50</strong></td>
<td><strong>S$181.50</strong></td>
</tr>
</tbody>
</table>

\(^1\) All self-sponsored Singaporeans aged 25 and above can use their $500 SkillsFuture Credit to pay for the programme. Visit http://www.skillsfuture.sg/credit to select the programme.

\(^2\) Mid-Career Enhanced Subsidy - Singaporeans aged 40 and above may enjoy subsidies up to 90% of the programme fee.

\(^3\) Workfare Training Support (WTS) - Singaporeans aged 35 and above (13 years and above for persons With disabilities) and earn not more than S$2,000 per month, may enjoy subsidies up to 95% of the programme fee.

\(^4\) Enhanced Training Support for SMEs (ETSS) - SME-sponsored employees (Singaporean Citizens and PRs) may enjoy subsidies up to 90% of the programme fee. For more information, visit http://www.ssg.gov.sg/programmes-and-initiatives/training/enhanced-training-support-for-smes.html?_ga=2.154478072.1748789781.1519700056-512306731.1519700056

\(^5\) Eligible organisations (excluding government entities) may apply for the absentee payroll funding via SkillsConnect at www.skillsconnect.gov.sg for Singaporean/permanent resident participants attending the programme during working hours. The absentee payroll funding is computed at 80% of hourly basic salary capped at $4.50 per hour or $7.50 per hour for SME or 95% of hourly basic salary for WTS. For more information, visit https://www.skillsconnect.gov.sg/sop/portal/e-Services/For%20Employers/AbsenteePayroll.jsp

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