Foreword 2

How to use this book 4

Introduction 6

Part One - 3D Printing Technologies & Materials 16

```
01 Overview of 3D Printing 19
02 Material Extrusion - FFF 27
03 VAT Polymerization - SLA/DLP 53
04 Powder Bed Fusion (Polymers) - SLS 73
05 Material Jetting - Material Jetting, DOD 93
06 Binder Jetting 111
07 Powder Bed Fusion (Metals) - DMLS/SLM, EBM 123
08 Decision making tools 137
```

Part Two – Designing for 3D Printing 144

```
09 General design and considerations
   for 3D Printing 147
10 Description of 3D printed features 153
11 Designing for FFF 157
12 Designing for SLA/DLP 177
13 Designing for SLS 185
14 Designing for Material Jetting 197
15 Designing for Binder Jetting 205
16 Designing for DMLS/SLM 213
17 Design rules summary table 225
```

Part Three – Applications of 3D Printing 226

```
18 Tools for producing 3D designs 229
19 Applications of FFF 241
20 Applications of SLA/DLP 249
21 Applications of SLS 257
22 Applications of Material Jetting 265
23 Applications of Binder Jetting 275
24 Applications of DMLS/SLM 279
```

Index 286