

**NOTE: Please feel free to use the most recent edition of textbooks referenced in this list**  
**NOTA : Utilisez l'édition la plus récente des manuels cités dans cette liste.**

### **10-Met-A1 Metallurgical Thermodynamics**

#### **Prime Text**

Gaskell, David, Introduction to Metallurgical Thermodynamics. CRC Press, 2008. ISBN: 9781591690436. Chapters 2, 3, 6, 8-14.

#### **Supplementary References**

De Hoff, Robert, Thermodynamics in Materials Science. Second edition, CRC Press, 2006. ISBN: 979849340659

Lee, H. G., Chemical Thermodynamics for Metals and Materials. Imperial College Press, 2001. ISBN: 1-86094-X.

Rosenquist, T., Principles of Extractive Metallurgy. Second edition, Tapir Academic Press, 2004. ISBN: 9788251919227.

### **10-Met-A2 Metallurgical Rate Phenomena**

#### **Prime Text**

Poirier, D.R., and Geiger, G.H., Transport Phenomena in Material Processing. TMS Publications, 1998. ISBN: 0873392752. Chapters 1, 2, 3, 6-15.

#### **Supplementary References**

Gaskell, D.R., Transport Phenomena in Materials Engineering. Prentice-Hall, 1991. ISBN: 97800234070208.

Guthrie, R.I.L., Engineering in Process Metallurgy. Oxford University Press, 1992. ISBN: 0198563671.

Powell IV, A., "Transport Phenomena in Materials Engineering". MIT Open Courseware. <http://ocw.mit.edu/courses/materials-science-and-engineering/3-185-transport-phenomena-in-materials-engineering-fall-2003/>.

Szekely, J. and N.J. Themelis, Rate Phenomena in Process Metallurgy, Wiley-Interscience, 1971. ISBN: 0471843030.

### **10-Met-A3 Metal Extraction Processes**

#### **Prime Text**

Rosenquist, T. Principles of Extractive Metallurgy. Tapir Academic Press, 2004. ISBN: 9788251919227. Chapters 4-14.

#### **Supplementary References**

Gilchrist, J.D., Extraction Metallurgy. (3<sup>rd</sup> edition) Pergamon Press, 1989. ISBN: 0-08-036611-2.

Ghosh, A. and H. S. Ray, Principles of Extractive Metallurgy. New Age International, 1991. ISBN: 8122403220.

Habashi, F., Principles in Extractive Metallurgy: General Principles. Gordon & Breach Science Publishers, 1969. ISBN: 0677017707.

Napier-Munn, T. and B.A. Wills, Mineral Processing Technology (7<sup>th</sup> edition). Butterworth-Heinemann, 2006. ISBN: 0750644508

### **10-Met-A4 Structure of Materials**

#### ***Prime Text***

Reed-Hill, R.E. and R. Abbaschian, Physical Metallurgy Principles. (3<sup>rd</sup> edition) PWS Kent Publishers, Boston, 1992. ISBN 0534921736. Chapters 1-4, 6, 7, 11 and 14

#### ***Supplementary References***

Barrett, C.S. and T.B. Massalski, Crystallographic Methods, Principles and Data. (3rd revised) Pergamon, 1980.

Cullity, BD and Stock, SR., Elements of X-ray Diffraction 3<sup>rd</sup> Edition. Prentice Hall, Upper Saddle River NJ, 2001 ISBN 0-201-61091-4 Chaps 1-3.

Flinn, R.A. and P.K. Trojan, Engineering Materials and Their Applications. (4th edition), Houghton Mifflin Company, Boston, 1990.

Shackelford, J.F., Introduction to Materials Science for Engineers. Latest edition, MacMillan Publishing Company, New York.

### **10-Met-A5 Mechanical Behaviour and Fracture of Materials**

#### ***Prime Text***

Hertzberg R.W., Deformation and Fracture Mechanics of Engineering Materials. (4<sup>th</sup> edition) John Wiley, New York, 1996. ISBN 0-471-01214-9. Chaps 1-5, 7, 8, 12 and 13.

#### ***Supplementary References***

Courtney, T.H., Mechanical Behaviour of materials, 2<sup>nd</sup> Edition. 2000. ISBN #0-070-28594-2.

Dieter, G., Mechanical Metallurgy. (3<sup>rd</sup> edition) McGraw-Hill Book Co., New York, 1986. ISBN 0070168938.

### **10-Met-A6 Phase Transformation and Thermal Treatment of Metals and Alloys**

#### ***Prime Text***

Reed-Hill, R.E. and R. Abbaschian, Physical Metallurgy Principles. (3<sup>rd</sup> edition), PWS Kent, Boston, 1991. ISBN 0534921736. Chapters 8, 14, 15, and 16.

#### ***Supplementary References***

ASM Handbook (Revised). Vol. 4, Heat Treating.

ASM Handbook. Vol. 2, Properties and Selection Nonferrous Alloys.

ASM Handbook. Vol. 1. Properties and Selection Iron and Steels.

Brooks, C.R., Heat Treatment Structure and Properties of Nonferrous Alloys. American Society for Metals, Metals Park, OH, 44073, USA, 1984.

Krauss, G., Steels: Heat Treatment Processing Principles. ASM International, 1990.

### **10-Met-A7 Corrosion and Oxidation**

#### **Prime Text**

Bradford SA, Corrosion Control (2<sup>nd</sup> edition), Casti Publishing, Edmonton. ISBN 1-894038-58-4. Chapters 1-6, 9-12, 14.

### **10-Met-B1 Mineral Processing**

#### **Prime Text**

Napier-Munn, T. and B.A. Wills, Mineral Processing Technology. Butterworth-Heinemann, 2006. ISBN: 0750644508. Chapters 2-16.

#### **Supplementary References**

Kelly, E.G. and D.J. Spottiswood, Introduction to Mineral Processing. Wiley Interscience, 1992. ISBN-10: 0471033790.

Mular, A.L. and D. Halbe and D. Barrat, Mineral Processing Plant Design, Practice and Control. Society for Mining, Metallurgy and Exploration, 1992. ISBN: 0873352238.

### **10-Met-B2 Hydrometallurgy and Electrometallurgy**

#### **Prime Text**

Jackson, E, Hydrometallurgical Extraction and Reclamation. Ellis Horwood Limited, 1986. Halstead Press, John Wiley & Sons. SBN: 0-7458-0048-3 and 0-470-2034-5. Chapters: 1, 2, 3, 4, 5.

#### **Supplementary References**

Habashi, F., Textbook of Hydrometallurgy. Les copies de la capitale inc., 1995. Distributed by Laval University Bookstore. ISBN : 2-980-3247-7-9.

Peters, E. G. L. Bolton, D.B. Dreisinger and B. Conard, Hydrometallurgy: Theory and Practice. TMS-AIME Press, 1992. ISBN: 0444986562.

Rosequist, T., Principles of Extractive Metallurgy. Tapir Academic Press, 2004. ISBN: 9788251919227.

### **10-Met-B3 Ironmaking and Steelmaking**

#### **Prime Text**

Turdogan, E.T., Fundamentals of Steelmaking. Woodhead Publishing Limited, 1996. ISBN: 1861250045. Chapters: All.

**Supplementary References**

Fruehan, R.J., The Making Shaping and Treating of Steel. 11<sup>th</sup> edition, ironmaking Volume. AIST Publications, 1992. ISBN: 978-0-930767-03-7.

Fruehan, R.J., The Making Shaping and Treating of Steel. 11<sup>th</sup> edition, Steelmaking and Refining Volume. AIST Publications, 1992. ISBN: 978-0-930767-02-0.

Fruehan, R.J. and E.T. Turkdogan, Proceedings of the Ethem T. Turkdogan Symposium: Fundamentals and analysis of New and Emerging Steelmaking Technologies, Pittsburgh, 1994. The Metals and Materials Society, Iron and Steel Society

**10-Met-B4 Non-Ferrous Extractive Metallurgy****Prime Text**

Gill, C.B., Non-Ferrous Extractive Metallurgy. John Wiley and Sons, 1998. ISBN: 0894642642. Chapters: all.

**Supplementary References**

Davenport, W.G., Extractive Metallurgy of Copper. Pergamon Press, Oxford, 1994. ISBN: 0080421245.

Evans, J.W. and Z.C. Dejonghe, The Production of Inorganic Material. TMS Press, Warrendale, 2002. ISBN: 0873395417.

Rosenquist, T., Principles of Extractive Metallurgy. Tapir Academic Press, 2004. ISBN: 9788251919227.

**10-Met-B5 Metal Fabrication****Prime Text**

DeGarmo, E. Paul, J.T. Black, and Ronald A. Kohser, Materials and Processes in Manufacturing, 10<sup>th</sup> Edition. 2007. ISBN: 0-470-05512-X. Chapters 4, 7, 13-19.

**Supplementary References**

Kapakjian, Serope and Steve Schmid, Manufacturing Engineering and Technology, 6<sup>th</sup> edition, Prentice Hall. 2009. ISBN # 0136081681.

**10-Met-B6 Physical Metallurgy of Iron and Steel****Prime Text**

Smith, W.F., Structure and Properties of Engineering Alloys (2<sup>nd</sup> edition), McGraw Hill, New York, 1993. Chapters 1-4, 7-9 and 14.

**Supplementary References**

Krause, G., Steels: Heat Treatment and Processing Principles. (3<sup>rd</sup> edition) ASM Int., 1990 ISBN 087170370X

Metals Handbook Volume 4 – Heat Treating (10<sup>th</sup> edition) ASM Materials Park, 1991.

Metals Handbook Volume 1 – Properties and Selection: Iron, Steels and High Performance Alloys. (10<sup>th</sup> edition), AMS, Materials Park, Ohio, 1990 ISBN 0871703777.

**10-Met-B7 Physical Metallurgy of Non-Ferrous Metals and Alloys****Prime Text**

Smith, W.F., Structure and Properties of Engineering Alloys, 2<sup>nd</sup> edition. McGraw Hill, New York, 1993. Chapters 5-6, and 10-13.

**10-Met-B8 Ceramic Materials****Prime Text**

Barsoum, M.W., Fundamentals of Ceramics. IOP Publishing, Bristol, 2003. ISBN #0 07503 0902 4. Chapters 1-4, 6-8, and 10-14.

**Supplementary Reference**

Kingery, W.D., H.K. Bowen, and D.R. Uhlmann, Introduction to Ceramics. (2<sup>nd</sup> edition) Wiley, New York, 1976. ISBN 0471478601.

**10-Met-B9 Structure and Properties of Polymers****Prime Text**

Young, R.J. and P.A. Lovell. Introduction to Polymers. CRC Press, 2<sup>nd</sup> edition, 1991. Chapters 1, 3-5.

**Supplementary Reference**

McCrum, N.G., Buckley, C.P. Bucknall, C.B. "Principles of Polymer Engineering", Oxford, 2<sup>nd</sup> ed., 1997.

**10-Met-B10 Advanced Electronic Materials****Prime Text**

Kasap, S.O., Principles of Electronic Materials and Devices, 3<sup>rd</sup> edition. McGraw-Hill Science, 2002. Chapters 4-8.