Medical Informatics

## Text Book List

**Academic Year 2020-2021**

***Textbook list is subject to change.***

***If you have any questions, please contact Lynne Schwabe at*** ***schwabel@ohsu.edu*** ***or phone***

***503-418-1566.***

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| **BMI 569/669 Hybrid** | **Data Analytics Hybrid****McWeeney/Sikora/Moore/Edinger**TEXTBOOKS: Required* Strome, Trevor L. Healthcare Analytics for Quality and Performance Improvement. Wiley, Hoboken, NJ: 2013. ISBN 978-1-118-5196901.
* McNeill, Dwight, ed. Analytics in Healthcare and the Life Sciences. International Institute for Analytics, Upper Saddle River, NJ: 2014. ISBN 978-0-13-340733-4.

Optional/Recommended:* Few, Stephen. Information Dashboard Design: Displaying Data for At-a-Glance Monitoring. Analytics Press: 2013. ISBN: 978-1-938277-00-6
* Gensinger, Raymond A, ed. Analytics in Healthcare: An Introduction. HIMSS, Chicago: 2014. ISBN 978-1-938904-64-6.
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| **BMI 510/610** | **Introduction to Biomedical Informatics** **Hersh**No Required Textbook**Optional Textbook:**Hoyt RE, Hersh WR, Eds. (2018). Health Informatics: Practical Guide, Seventh Edition, Lulu.com |
| **BMI 512/612** | Clinical Information Systems **Mohan**No Textbook Required |
| **BMI****513/613** | **Electronic Health Record Laboratory Course****Vishnu Mohan****Required:** Electronic Health Records Author: Byron Hamilton**Publisher:** McGraw-Hill Science/Engineering/Math; 3 edition (2012)**Language:** English**ISBN-10:** 0073402141I**SBN-13:** 978-0073402147 |
| **BMI 514/614** | **Information Retrieval & Digital Libraries** **Hersh**Hersh, William R. *Information Retrieval: A Health and Biomedical Perspective 3rd Ed.* |
| **BMI****516/616** | **Standards and Interoperability****Orwoll****TEXTBOOK:**  Tim Benson, **Principles of Health Interoperability: HL7 and SNOMED**, Second edition. Springer 2012 978-1-4471-2800-7. The e-Book may be available through the OHSU library.Additional reading material will be available on the Sakai course site. |
| **BMI 517/617**  | **Organizational Behavior and Management in Informatics** **Hoekstra/Ash** **Required Reading**:Organizational Behavior (18th Edition) by Stephen P. Robbins, Timothy A. Judge Additional required readings will be listed in course materials throughout the term.Additional required readings will be listed in course materials throughout the term. |
| **BMI 518/618** | **Project Management in Informatics** **Woodcock/Ash (Winter 2020)****Textbooks:**1. Verzuh, Eric (2015). The Fast Forward MBA in Project Management. Hoboken, New Jersey: John Wiley & Sons, Inc.; 5th edition.Available in electronic and paperback formats: # ISBN-10: 1119086574; # ISBN-13: 978-1119086574.**Optional resources:**Although this course is not intended to be a “prep course” for the PMI’s PMP Certification Examination (see [www.pmi.org](http://www.pmi.org)), the PMI project framework is integrated into the course material. Students considering sitting for the certification examination may also wish to purchase:1. Project Management Institute (2013) A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Available used on Amazon, or from http:/www.pmi.org: # ISBN13: 978193558967**Project Management Software**Students will learn to use a free, open-source project management program called ProjectLibre to plan, execute, and manage projects. ProjectLibre runs on Windows, MacOS, and Linux, and can be downloaded from <http://www.projectlibre.org/> . Optionally, students with access to Microsoft Project are welcome to use it for all assignments and class deliverables. |
| **BMI 519/619** | **The Business of Health Care Informatics** **Mohan** No Required Textbook  |
| **BMI 520/620** | **Consumer Health Informatics****Valerius/Altus**Required: Consumer Health Informatics Thomas WetterSpringerISBN: 978-3-319-19589-6 |
| **BMI 521/621** | **Public Health Informatics** **Magnuson**Required:Public Health Informatics and Information SystemsMagnuson, J.A., Fu, Jr., Paul C. (Eds.)2nd ed. 2014, XVIII, 666 p. 114 illus., 35 illus. in color.Available Formats: eBook, HardcoverISBN 978-1-4471-4236-2 |
| **BMI 523/623** | Clinical Research Informatics**Schuff/Weiskopf****Required Textbook and Readings:** 1. Richesson RL, Andrews JE, editors. Clinical Research Informatics. Springer International Publishing; 2019 Feb 7. (Available through OHSU library as e-book.)
2. Weekly readings will be assigned.
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| **BMI 524/624** | **Analytics for Healthcare, An Overview****Pandit/Edinger** **REQUIRED TEXTS OR READINGS**1. Book

Healthcare Data Analytics (Chapman & Hall/CRC Data Mining and Knowledge Discovery Series Book 36)ISBN-13: 978-1482232110ISBN-10: 14822321111. Book

Data Science for Business: What You Need to Know about Data Mining and Data-Analytic ThinkingISBN-13: 978-1449361327ISBN-10: 1449361323Additional Weekly reading as assigned, see Sakai for details |
| **BMI 525/625** | **PRINCIPLES & PRACTICE OF DATA VISUALIZATION** **Bedrick****Textbooks & Resources*** [Course Page on OHSU Sakai](https://sakai.ohsu.edu/portal/site/CS-631-1-31934-Sp20)
* [Labs & In-Class Readings](https://stevenbedrick.github.io/data-vis-labs-2020/)
* Kieran Healy, [Data Visualization: A Practical Introduction](https://kieranhealy.org/publications/dataviz/)
	+ While a paper copy is helpful, the author has posted a [draft manuscript](http://socviz.co) of the book online
	+ That said, given the impact that the coronavirus pandemic has had on the retail industry, if you are able to purchase a paper copy, please consider doing so from one of our excellent [local](https://www.annieblooms.com/book/9780691181622) [independent](https://www.powells.com/book/-9780691181622) bookstores.
* Claus Wilke, [Fundamentals of Data Visualization](https://serialmentor.com/dataviz/)
	+ [Annie Bloom’s](https://www.annieblooms.com/book/9781492031086)
	+ [Powell’s](https://www.powells.com/book/-9781492031086)
* Other useful books can be found on the [Resources](https://cslu.ohsu.edu/~bedricks/courses/cs631_spring_2020/resources) section.
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| **BMI 530/630** | The Practice of Health CareChaseRequired: Eckman, M., Share, D. Pathophysiology Made Incredibly Easy. Fifth Ed. 2013. Lippincott Williams & Wilkins. Paper. 544pp. ISBN-10 145114623X, ISBN-13 978-1451146233 |
| **BMI 535/635** | Management and Processing of Large Scale Data**Mooney/Laderas**No text required – Readings from primary literature will be assigned.  |
| **BMI****536/636** | Evidence-Based Medicine (Odd years Only)**Hersh****Required** : The course textbook is: Guyatt, G, Rennie, D, et al., Eds. (2015). *Users' Guides to the Medical Literature: Essentials of Evidence-Based Clinical Practice, Third Edition*. New York, NY, McGraw-Hill. |
| **BMI 537/637** | Healthcare Quality Lieberman**REQUIRED TEXTBOOK** Nash, D., Joshi, M., Ransom, E. R., & Ransom, S. B. (2019). The Healthcare Quality Book: Vision, Strategy, and Tools (4th ed.). Chicago: Health Administration Press. ISBN 9781640550537We may also have reading from the previous edition, which is available in electronic format to OHSU students through the OHSU library at no cost:Joshi, M.S. Ransom, E. R., Joshi, M., Nash, D., & Ransom, S. (2014). The Healthcare Quality Book: Vision, Strategy, and Tools (3rd ed.). Chicago: Health Administration Press. ISBN 10 - 1567935907 |
| **BMI 538/638** | Medical Decision Making Eden**REQUIRED TEXTBOOK AND SOFTWARE:** Decision Making in Health and Medicine: Integrating Evidence and Values (Paperback)by Myriam Hunink, 2nd edition, Cambridge University Press; Book (December 8, 2014) I978-1107690479. *The first edition, while available, lacks some key information contained in the second edition so we ask that you purchase the second edition.* ***The OHSU Library has some access to the digital texts so you may want to check this first if you don’t want to own the copy.***  Software: Student version of TreeAge Pro Suite (www.treeage.com/shop) which will cost $55 to download and is good for 6 months for use with student activities. |
| **BMI 540/640** | Computer Science and Java Programming HribarRequired text: To Be Announced.  |
| **BMI 543/643** | Machine LearningSong**Textbook**Chris Bishop. *Pattern recognition and Machine Learning* Springer, 2006. Requiredtextbook.  |
| **BMI 544/644** | Databases Lieberman**Required Textbook:***“Databases Illuminated, Third Edition”*Catherine M. Ricardo, PhDSusan D. Urban, PhDJones & Bartlett Learning 2017SBN-13: 9781284056945ISBN-10:1284056945 |
| **BMI 546/646** | Software EngineeringCohen**REQUIRED TEXTBOOK(S):**Software Engineering, 10th Edition, Sommerville, Addison-Wesley, 2015. ISBN 0133943038. Available on Amazon.com as an ebook as well as hardcover.  |
| **BMI 548/648** | Human Computer Interaction in BiomedicineChiang/Hribar**Required:** We are no longer requiring a textbook for this course, but will instead assign readings from articles and webpages. You may find the recommended textbooks helpful, but they are not required.**Recommended**: "[User](http://www.amazon.com/gp/product/0470018666/102-5813490-0756119) Interface Design and Evaluation" by Debbie Stone, Caroline Jarrett, Mark Woodroffe and Shailey Minocha (Morgan Kaufmann, 2005). “Don’t Make Me Think Revisited: A Common Sense Approach to Web and Mobile Usability” by Steve Krug. (New Riders, 2014).“The Design of Everyday Things: Revised and Expanded Edition” by Donald Norman. (Basic Books, 2013). |
| **BMI 549/649** | Health Information Privacy & SecurityTBDRequired: Information Security in Healthcare: Managing Risk, Terrell W. Herzig, Ed; HIMSS, 2010ISBN: 978-0-9821070-2-7Available from http://marketplace.himss.org/acct618b/Default.aspx?tabid=57 |
| **BMI 550/650** | **BCBI: Algorithms** **Jacobs****TEXTBOOKS:****Required**Compeau, P and Pevzner P. Bioinformatics Algorithms An Active Learning Approach **3rd Edition** Note: We will augment this text with papers from primary literature for topics not covered in the text.**Additional Reading (Not required)**Di Pierro, Massimo. Annotated Algorithms in Python: with Applications in Physics, Biology, and Finance 2013**For non-biologists:** Brown, TA. Genomes 2nd Edition (available online)<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=genomes.TOC&depth=2> **For non-computer scientists:** Jones NC and P Pevzner. An Introduction to Bioinformatics Algorithms (Computational Molecular Biology) 2004 |
| **BMI 551/651****BMI 552/652B** | **BCBII: Statistical Methods** **Jacobs****TEXTBOOKS: Required**: Hastie, Tibshirani andFriedman. The Elements of Statistical Learning: DataMining, Inference, and Prediction (2009) SecondEdition\*\*Order online. Book not available at OHSU bookstore.\*\****Research in Bioinformatics******Eilis Boudreau***Optional Text: “The Grant Application Writer’s Workbook” (“NIH- New Format”) by Stephen W. Russell and David C. Morrison which can be purchased at the following site: <http://www.grantcentral.com/>. |
| **BMI 552A/652A** | **Research in Bioinformatics & Computational Biomedicine****Boudreau** **Required Text:** The Grant Application Writer’s Workbook, available at <http://www.grantcentral.com/workbook_nih_sf424_shortened.html> |
| **BMI 553/653** | **Readings in Bioinformatics****Jacobs** **Required Textbook and Reading Material:**Presentation Zen: Simple Ideas on Presentation Design and Delivery by Garr Reynolds (2011). New Riders Press (required for BCB students only) *Weekly readings and presentation assignments will be assigned in the first week of the course.*  |
|  **BMI****559/659** | **Computational Genetics****McWeeney****TEXTBOOK****Required:** Human Molecular Genetics, Fourth EditionAuthors: Tom Strachan and Andrew ReadISBN-10: 0815345893 | ISBN-13: 9780815345893Publisher: Garland Science; 5th edition**Non-Required Additional Texts for Reference:** Bioinformatics for Geneticists: A Bioinformatics Primer for the Analysis of Genetic Data Author: Michael R Barnes; Wiley; 2nd editionJournal articles will also be assigned in class each week. |
| **BMI 560/660** | **Design and Evaluation in Biomedical Informatics** **Mohan****Required:** Practical Research: Planning and Design (12th Edition)**Authors:** Paul D Leedy and Jeanne Ellis Ormrod**Paperback:** 408 pages**Publisher:** Pearson; 12th edition (February 19, 2018)**Language:** English**ISBN-10:** 9780134775654**ISBN-13:** 978-0134775654\*\*subject to change, check with instructor prior to purchasing text |
| **BMI 561/661** | **Qualitative Research Methods** **Ash****Required Reading**:Berg, Bruce L and Lune, Howard. Qualitative Research Methods for the Social Sciences, 8th edition. Pearson Education, 2012. ISBN-13: 978-0-205-80938-7ISBN-10: 0-205-80938-3Crabtree, Benjamin F. and William L. Miller. Doing Qualitative Research, 2nd ed. Sage, 1999. ISBN 0761914986. Ash et al. chapter draft from Friedman and Wyatt’s Evaluation Methods in Medical Informatics, 2nd ed. (distributed) |
| **BMI 562/662** | Quantitative Research MethodsTBDRequired: To be announced  |
| **BMI****565/665** | Bioinformatics Programming and Scripting**Mooney**No Required TextSuggested Text for Reference:Python for Bioinformatics by Sebastian Bassi. 2nd Edition. CRC Press, 2017.  ISBN: 978-1138035263 |
|  **BMI****567/667** | Network Science and Biology**Guanming****TEXTBOOK:** **Required:**Mark Newman: Networks: An Introduction. Oxford University Press: 2 edition (September 19, 2018). ISBN-10: 0198805098, ISBN-13**:** 978-0198805090 |
| **BMI 569/669****Summer Hybrid** | Data AnalyticsSikora, Moore, Laderas **TEXTBOOKS:** Required* Strome, Trevor L. *Healthcare Analytics for Quality and Performance Improvement*. Wiley, Hoboken, NJ: 2013. ISBN 978-1-118-5196901.
* McNeill, Dwight, ed. *Analytics in Healthcare and the Life Sciences*. International Institute for Analytics, Upper Saddle River, NJ: 2014. ISBN 978-0-13-340733-4.
* Few, Stephen. *Information Dashboard Design: Displaying Data for At-a-Glance Monitoring*. Analytics Press: 2013. ISBN: 978-1-938277-00-6

Optional/Recommended:* Gensinger, Raymond A, ed. *Analytics in Healthcare: An Introduction*. HIMSS, Chicago: 2014. ISBN 978-1-938904-64-6.

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| **BMI 570/670** | Scientific Writing and Communication for Informatics StudentsPyle **REQUIRED TEXTBOOK(S)**1. Alley, Michael. The Craft of Scientific Writing, fourth edition. New York: Springer, 2018. ISBN: 978-1-4419-8287-2 2. Alley, Michael. The Craft of Scientific Presentations, second edition. New York: Springer, 2013. ISBN: 1441982787   ISBN-13: 9781441982780 |
| **BMI 576/676** | Managing Ethics in Bioinformatics **Valerius****No Textbook required.** |

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| **BSTA 525** | **PHPM 524 Introduction to Biostatistics** **Required:** Pagano M, Gauvreau K. *Principles of Biostatistics*, 2nd Edition, Duxbury Press, Pacific Grove, CA, 2000.**Optional Text:** Glantz, SA. Primer of Biostatistics, 7th Edition, McGraw-Hill Companies Inc., New York, 2012 |