

ISLA 345: Science & Civilization in Islam
MW 1:05-2:25pm; Birks 111
Off. Hrs: MT 3-4pm; Morrice Hall 024 (jamil.ragep@mcgill.ca)

F. J. Ragep
Winter 2019

A. Required Book [B]

- J. L. Berggren, *Episodes in the Mathematics of Medieval Islam*, 2nd ed. (Springer, 2016)
<https://link.springer.com/book/10.1007%2F978-1-4939-3780-6>

B. On reserve in the Islamic Studies Library [R]:

<https://mcgill.on.worldcat.org/courseReserves/course/id/14715714>

- Ahmad Dallal, *Islam, Science, and the Challenge of History*
<https://ebookcentral.proquest.com/lib/mcgill/detail.action?docID=3420994>
- Frank Griffel, *Al-Ghazālī's Philosophical Theology*
- Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbāsīd Society (2nd-4th/8th-10th Centuries)*
<https://archive.org/details/DimitriGutasGreekThoughtArabicCultureTheGraecoArabicTranslationMovementInBaghdad/>
- George F. Hourani, *Averroes on the Harmony of Religion and Philosophy*
- Ibn Khaldūn, *The Muqaddimah: An Introduction to History*
- B. F. Musallam, *Sex and Society in Islam*
<https://www.fulcrum.org/concern/monographs/9k41zd591>
- Peter E. Pormann and Emilie Savage-Smith, *Medieval Islamic Medicine*
- F. J. Ragep, *Naṣīr al-Dīn al-Ṭūsī's Memoir on Astronomy (al-Tadhkira)*
http://digitool.Library.McGill.CA:80/R/-?func=dbin-jump-full&object_id=108822&silolibrary=GEN01
- Franz Rosenthal, *The Classical Heritage in Islam*
- George Saliba, *Islamic Science and the Making of the European Renaissance*
<https://ebookcentral.proquest.com/lib/mcgill/detail.action?docID=3338641>

C. Readings in myCourses are indicated by [M]

D. Online materials are indicated by [O]

E. General Histories of Islam (for background):

- *The New Cambridge History of Islam*, general editor Michael Cook. 6 vols. (Cambridge Univ. Press, 2011).
<https://archive.org/details/TheNewCambridgeHistoryOfIslamVolume1>
- Daniel W. Brown, *A New Introduction to Islam* (Wiley-Blackwell, 2009)
- Ira M. Lapidus, *A History of Islamic Societies* (Cambridge Univ. Press, 2014)

F. MAPS: https://www.edmaps.com/html/islamic_world.html

Class Schedule

I. Jan. 7, 9: Islam, Science, and Civilizations: Reading History Backwards

- [M] F. J. Ragep, "Islamic Culture and the Natural Sciences" [*Intro; The Historical and Cultural Background*], pp. 27-33
- [M, O] F. J. Ragep, "When Did Islamic Science Die? (And Who Cares?)"
http://islamsci.mcgill.ca/Viewpoint_ragep.pdf
- [M, O, R] A. Dallal, *Islam, Science, and the Challenge of History*, ch. 4 (pp. 149-176)
- [M] Additional passages from Bernard Lewis and Gustav von Grünebaum

Background reading:

- [M, O] *The New Cambridge History of Islam*, vol. 1, pp. 1-15, 173-225
<https://archive.org/details/TheNewCambridgeHistoryOfIslamVolume1>

II. Jan. 14: The Meaning of Knowledge in Islamic Civilization (Classification of the Sciences)

- [M, R] F. Rosenthal, *Classical Heritage in Islam*, pp. 52-82, 114-116
- [M] F. J. Ragep, "Islamic Culture and the Natural Sciences" [*The Theological (Kalām) Approach to the Phenomenal World*], pp. 53-57

III. Jan. 16: "Religious" Knowledge and Belief [Rationality Homegrown]

- [O] N. Heer, "A Lecture on Islamic Theology" <http://faculty.washington.edu/heer/theology-sep.pdf>
- [O] Abdus Salam's views on Islam and Science: <http://www.sciencedev.net/Docs/Islam-and-Science-Concordance-or-Conflict.pdf>
- [O] Pervez Hoodbhoy on Abdus Salam views: <http://eacpe.org/articles-by-pervez-hoodbhoy/my-encounters-with-abdus-salam/>

ASSIGNMENT 1: Abdus Salam film (showing: Jan. 15 at 6pm; writeup due Jan. 21)

IV. Jan. 21, 23: Secular Knowledge in Islamic Civilization: Sources and Motivations

- [M] F. J. Ragep, "Islamic Culture and the Natural Sciences" [*The Translation of Greek Natural Philosophy into Arabic: Background and Motivations; Translators and Their Patrons*], pp. 34-40
- [M] A. I. Sabra, "The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam"
- [M, R] F. Rosenthal, *Classical Heritage*, pp. 1-23
- [O, R] G. Saliba, *Islamic Science*, pp. 1-19
<https://ebookcentral.proquest.com/lib/mcgill/detail.action?docID=3338641>

ASSIGNMENT 2: Due January 28 [The Translation Movement]

V. Jan. 28: "Non-religious" Knowledge and Belief

- [M] F. J. Ragep, "Islamic Culture and the Natural Sciences" [*The Natural Philosophy Tradition in Islam; Defenders and Practitioners of Natural Philosophy; Transformations...*], pp. 40-53, 57-61
- [M] A. I. Sabra, "Some Remarks on Al-Kindī..."
- [O] Jon McGinnis, "Arabic and Islamic Natural Philosophy and Natural Science"
<http://plato.stanford.edu/entries/arabic-islamic-natural/>

Jan. 30: NO CLASS

VI. Feb. 4, 6: Interactions of the "Religious" and "Non-religious"

- [M] "The Attack of al-Ghazzālī upon the Philosophers and the Response of Averroes"
- [M, R] Averroes, "Decisive Treatise," in George Hourani, *Averroes on the Harmony of Religion and Philosophy*
- [M, R] Ibn Khaldūn, *The Muqaddimah: An Introduction to History*, pp. 258-264
- [O] Frank Griffel, "Al-Ghazali" <http://plato.stanford.edu/entries/al-ghazali/>
- [M] E. Abouheif, "On Bridging Islam and Evolution"

ASSIGNMENT 3: Due Feb. 11 [Science and Religion/Knowledge and Belief]

VII. Feb. 11, 13: Institutions and Post-Classical Islamic Intellectual History

- [M, O] I. Fazlioğlu, “The Samarqand Mathematical-Astronomical School”
<http://islamsci.mcgill.ca/Fazlioglu.pdf>
- [M] Sally P. Ragep, “The Teaching of Theoretical Astronomy in Pre-modern Islam”
- [M] A. Sayılı, *The Observatory in Islam*, pp. 306-312
- [M] F. Charette, “The Locales of Islamic Astronomical Instrumentation,” pp.123-138

Background reading:

- [O] *The New Cambridge History of Islam*, vol. 3, pp. 1-17, 128-200
https://archive.org/stream/TheNewCambridgeHistoryOfIslamVolume1/The_New_Cambridge_History_of_Islam_Volume_3#page/n0/mode/2up
- [O] “Madrasa,” *Encyclopedia of Islam*, 2nd ed. (part 1 only: “The Institution in the Arabic, Persian and Turkish lands”) http://dx.doi.org/10.1163/1573-3912_islam_COM_0610

Feb. 18: Midterm

VIII. Feb. 20, 25: Optics and Vision

- [M] A. I. Sabra, “Optics, Islamic,” pp. 179-186
- [M, R] A. I. Sabra, *The Optics of Ibn al-Haytham*, pp. 3-6, 63-70, 113, 126-138, 200-206

ASSIGNMENT 4: Due Feb. 27 [Ibn al-Haytham’s Vision]

IX. Feb. 27, March 11: Medicine and Biology

- [M] Emilie Savage-Smith, “Medicine in Medieval Islamic”
- [M, O, R] B. F. Musallam, *Sex and Society in Islam*, pp. 10-59

PAPER: Due March 13 [on *Sex and Society*]

X. March 13, 18, 20: Mathematics

- [B, O] J. L. Berggren, *Episodes* (2nd ed), pp. 1-56, 71-76, 121-129, 152-153, 155-163

ASSIGNMENT 5: Due March 25 [Mathematics exercise]

XI. March 25, 27, April 1, 3: Astronomy

- [M, O] F. J. Ragep, “Astronomy,” *Encyclopedia of Islam*, 3d ed.
http://dx.doi.org/10.1163/1573-3912_ei3_COM_22652
- [O, R] F. J. Ragep, *Naṣīr al-Dīn al-Ṭūsī’s Memoir*, 90-112, 158-160, 194-204
- http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1546213265415~437&usePid1=true&usePid2=true
- [M] Ibn al-Haytham’s Introduction to *Doubts Concerning Ptolemy*
- [B, O] J. L. Berggren, *Episodes* (2nd ed), pp. 173-175, 197-208, 211-220

ASSIGNMENT 6: Due April 8 [Astronomy exercise]

XII. April 8, 10: Transmission, Mutual Influence, and Modern Repercussions

- [M] F. J. Ragep, “Copernicus and His Islamic Predecessors,” pp. 65-81
- [additional readings to be assigned]

Course Information

1. Office Hrs: MT 3:00-4:00 and by appointment. [Morrice Hall 024]
2. Generally, readings should be completed by the beginning of the week in which they are assigned.
3. Make-up of an examination, or late submission of papers, will be permitted without penalty only in cases of serious illness or emergency (such as death of a close family member); approval for such a make-up exam or late essay submission must be obtained in advance in all but highly exceptional cases.
4. Late submissions of assignments or papers will be accepted but will be penalized a half letter-grade (or 5 points on a 100 scale) for every day it is late, up to a maximum of 50% penalty. Missed exams (other than the final) that are unexcused may (and should) be made up; they will be given 50% credit.
5. McGill is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. It would be helpful if you contact the Office for Students with Disabilities at 398-6009 (online at <https://www.mcgill.ca/osd/>) before you do this.
6. In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.
Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté.
7. Permission from the instructor is needed for taping of Lectures.
8. Instructor generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow-up by the University under the Code of Student Conduct and Disciplinary Procedures.
9. McGill University values academic integrity. Therefore, all students are responsible for understanding their rights and university policies and regulations regarding cheating, plagiarism, and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more information).
10. In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.
11. Grading:

Midterm exam (Feb. 18)	15%
Final Exam	25%
Assignments 1-4 (Due Jan. 21, Jan. 28, Feb. 11, Feb. 27)	24%
Paper (on <i>Sex and Society</i>) [ca. 6-8 pages] (due March 13)	15%
Assignments 5-6 on Math and Astronomy (due Mar. 25, April 8)	15%
The remaining 6% of the grade will be discretionary, being based upon class attendance and participation in discussions.	6%