

# Toward Open Pragmatism

Developing a Revised  
Framework for Openness



# Presenters

## Erik Christiansen

Assistant Professor/Librarian

Mount Royal University, Calgary, Canada

## Michael B. McNally

Associate Professor

University of Alberta, Edmonton, Canada

# Background & previous work

Copyright/Open Licensing Frameworks

Accessibility/Usability Formatting

Language

Support Costs

Assessment

Digital Distribution

File Format

Cultural Considerations

1. Choose Elements to Address

2. Effort and Willingness

3. Skill/Knowledge Required



Closed



Mixed



Most Open

McNally, M.B., & Christiansen, E.G. (2019). Open enough? Eight factors to consider when transitioning from closed to open resources and courses: A conceptual framework. *First Monday* 24(6). <https://doi.org/10.5210/fm.v24i6.9180>

	Closed	Mixed	Most Open
<b>Copyright/Open Licensing Frameworks</b>	Copyright/all rights reserved	Less Open CC License Terms (NC/ND and arguably SA)	CC-BY License/ Public Domain
<b>Accessibility/Usability Formatting</b>	Not formatted for accessibility	Some accessibility formatting (e.g. closed captioning)	<u>Fully accessibility (e.g. compliance w/ US HHS 508 Compliant)</u>
<b>Language</b>	Single Language (usually English)	Bi-lingual or includes guides/steps for translation	Multi-Lingual or includes guides/steps for translation and is bilingual
<b>Support Costs</b>	Paid resources	Licensed library resources	Openly Licensed Resources
<b>Assessment</b>	No assessment available	Assessments made available	Assessments tailored for self-assessment
<b>Digital Distribution</b>	Closed/available only to insiders (e.g. via LMS)	Open but low discoverability (e.g. institutional repository)	Open and high discoverability (e.g. YouTube or broadly available repository (e.g. Merlot, BCcampus))
<b>File Format</b>	PDF or other non-editable format	Editable format but proprietary software (e.g. Word)	Fully open format (e.g. html)
<b>Cultural Considerations</b>	No consideration for outside cultural users/includes culturally specific materials/content	Some considerations for outside cultural users	Generally devoid of culturally specific material

# Literature review

## Conceptions of Openness

- 50 shades of open (Pomerantz and Peek, 2016)
- 4 facet spectrum (social, technical, legal and financial) (Hodgkinson-Williams and Gary, 2009)
- Expanding and contracting over time (Peter and Deimann, 2013)
- 11 approaches topology (Economides and Perifanou, 2018)
- Admission, free, OER, OEP (Cronin, 2018)

## Frameworks for Openness

- ALMS framework (Hilton et al., 2010)
  - Access to editing tools
  - Level of expertise
  - Meaningfully editable
  - Source-file access
- Gurell (2012) creates ALMS scoring framework
- D-Index (Abeywardena et al., 2012)
  - Desirability index that quantifies level of access

# Why develop a framework?

Conceptual framework is necessary for the following reasons

1. Better understand the state of OCW/OER
  - a. What can we improve?
  - b. What are we doing well?
2. Address the lingering concerns from educators
  - a. Quality control
  - b. Context and broader utility of these resources
3. Give educators a more robust 'guide' for developing new, or adapting existing, OCW/OER



Photo by [Startup Stock Photos](#) from [Pexels](#)

# Research Questions

1. Are these factors robust enough to analyze (or measure) the level of openness in OCW?
2. Are certain factors impractical for measurement and do some factors require modification and/or expansion?

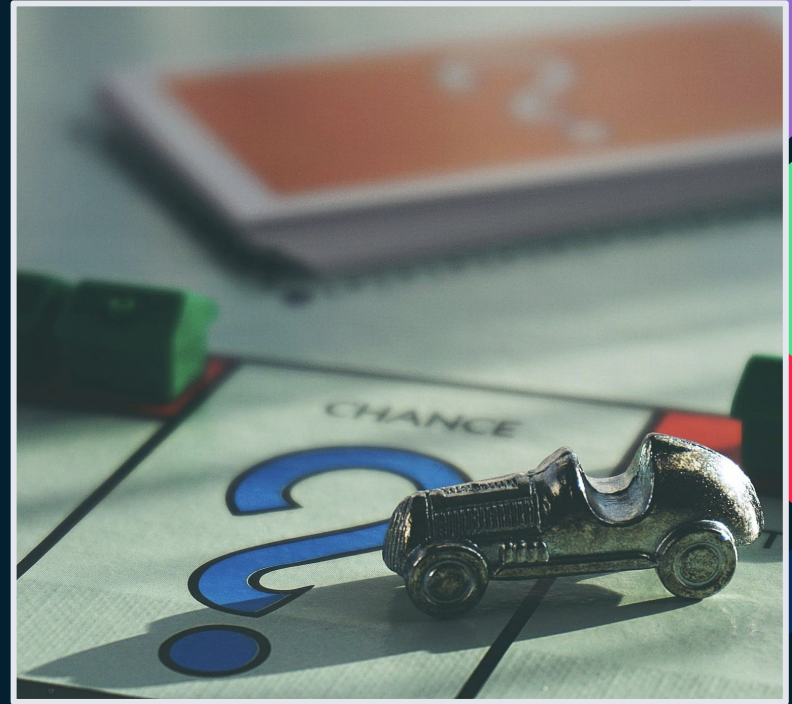


Photo by [Suzy Hazelwood](#) from [Pexels](#)

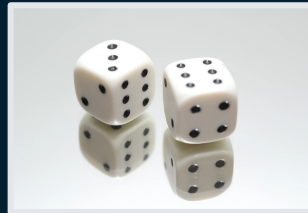
# Pilot study design

## 1) Choose Repositories



2 chosen from 16  
repositories examined

## 2) Random selection



CC0 image

### Examined

5 of 38 MIT Courses (2016-)  
5 of 116 TU Delft Courses  
97 TU Delft MOOCs removed

## 3) Evaluation



Photo by [Lukas](#) from [Pexels](#)

2 evaluations x  
8 factors x  
10 courses



# Results

	Copyright/OL	Accessibility/Usability	Language	Support Costs	Assessment	Digital Distribution	File Format	Cultural Considerations
MIT OCW								
<a href="#">Public Transportation Systems</a>	Mixed	Most Open	Closed	Closed	Mixed	Most Open	Closed	Mixed
<a href="#">Equity and Inclusion</a>	Mixed	Most Open	Closed	Closed	Mixed	Most Open	Closed	Closed
<a href="#">Introduction to Art History</a>	Mixed	Most Open	Closed	Closed	Mixed	Most Open	Closed	Closed
<a href="#">Innovation Systems</a>	Mixed	Most Open	Closed	Closed	Mixed	Most Open	Closed	Closed
<a href="#">Biological Chemistry II</a>	Mixed	Most Open	Closed	Closed	Most Open	Most Open	Closed	Most Open
TU Delft OCW								
<a href="#">Public Hygiene and Epidemiology</a>	Mixed	Closed	Mixed	Most Open	Closed	Most Open	Closed	Mixed
<a href="#">Hydrology of Catchments, Rivers and Deltas</a>	Mixed	Closed	Closed	Mixed	Mixed	Most Open	Closed	Most Open
<a href="#">System Validation</a>	Mixed	Closed	Closed	Closed	Mixed	Most Open	Closed	Most Open
<a href="#">Structured Electronic Design</a>	Mixed	Closed	Closed	Closed	Mixed	Most Open	Closed	Most Open
<a href="#">Drinking Water Treatment 2</a>	Mixed	Closed	Closed	Closed	Mixed	Most Open	Closed	Most Open



- Each of us independently evaluated the OCW sample
- We brought our results together, and did a final analysis to settle on the conclusions outlined by this study

# Does the framework work?

## Yes, but there are caveats

Some factors are too impractical or subjective

- Cultural considerations
- Usability

Some factors needed rewording

- Digital Distribution > Discoverability
- Accessibility/Usability > Accessibility
- Support Costs > Materials



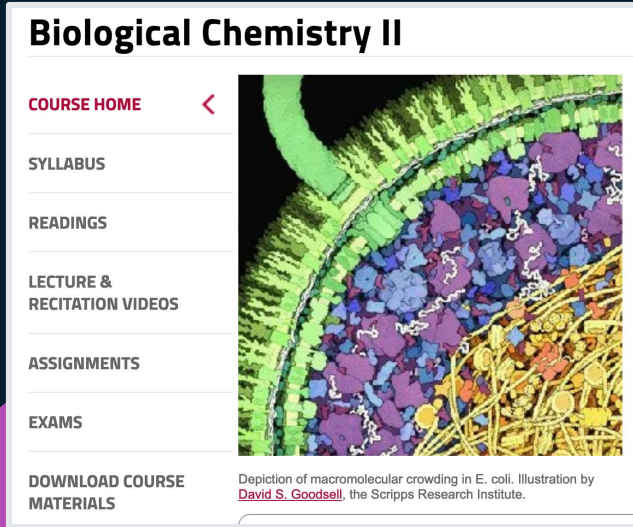
Photo by [Startup Stock Photos](#) from [Pexels](#)

# Copyright & Open Licensing Frameworks

	Copyright/OL
MIT OCW	
<a href="#">Public Transportation Systems</a>	Mixed
<a href="#">Equity and Inclusion</a>	Mixed
<a href="#">Introduction to Art History</a>	Mixed
<a href="#">Innovation Systems</a>	Mixed
<a href="#">Biological Chemistry II</a>	Mixed
TU Delft OCW	
<a href="#">Public Hygiene and Epidemiology</a>	Mixed
<a href="#">Hydrology of Catchments, Rivers and Deltas</a>	Mixed
<a href="#">System Validation</a>	Mixed
<a href="#">Structured Electronic Design</a>	Mixed
<a href="#">Drinking Water Treatment 2</a>	Mixed

- All courses fell under 'mixed'
- Both institutions enforce somewhat restrictive CC-BY-NC-SA
- Under different circumstances, categorizing the openness of OCW or OER could be more challenging. How would a course be classified if the documents within an open course each adhered to different licensing terms?

# Accessibility



MIT Biological Chemistry II course

- MIT 'Most Open': "...committed to accessibility for persons with disabilities and strives to meet W3C Web Content Accessibility Guidelines (WCAG) 2.0, Level AA, including validating HTML, captioning the video, and checking the accessibility of course content as part of the authoring process" (MIT, n.d.a)
- TU Delft 'Mixed': No such formal commitment
  - Closed captions for video (though no transcript download option)
- 'Usability' dropped as a consideration for this framework. Too subjective

# Language

Het was niet zo'n fraaie beurt voor de officiële medische wetenschap, zoals het ook niet zo mooi is dat Ignasz Semmelweis - de man die de kraamvrouwenkoorts analyseerde en effectief bestreed - uiteindelijk in een gekkenhuis gestorven is. Zonder overdrijving kunnen we Jenner's inzichten de grootste medische doorbraak noemen in de laatste drie eeuwen. Ze betekenden de redding van miljoenen mensen, vooral kinderen, en vormden de



- Majority of classes fell under the 'closed' category
- Notable exceptions include TU Delft's Drinking Water Treatment 2 which provided final report example assignments in Dutch
- Not surprising given the work required to translate OCW

# Support costs

MIT OPEN COURSEWARE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Subscribe to the OCW Newsletter

Home » Courses » Urban Studies and Planning » Equity & Inclusion: Local Policy-Driven Strategies for Economic Development & the Just City » Readings

## Readings

COURSE HOME	WEEK #	TOPICS	READINGS
SYLLABUS			Tuesday:
READINGS			<ul style="list-style-type: none"><li>• <a href="#">Forester, John</a>. 1993. <i>Critical Theory, Public Policy, and Planning Practice: Toward a Critical Pragmatism</i>. Albany: State University of New York Press. 1-34. ISBN: 9780791414453.</li><li>• <a href="#">Fainstein, Susan</a>. 2010. <i>The Just City</i>. Ithaca: Cornell University Press. Introduction and Chapter 1, 1-56. ISBN: 9780801476907.</li><li>• <a href="#">Sandercock, Leonie</a>. 1998. <i>Towards Cosmopolis: Planning for Multicultural Cities</i>. Chichester: Wiley. 129-159. ISBN: 9780471971986.</li><li>• <a href="#">King, Martin Luther</a>. 1963. "Letter from Birmingham Jail" in Rieder, Jonathan. <i>Gospel of Freedom: Martin Luther King, Jr.'s Letter from Birmingham Jail and the Struggle that Changed a Nation</i>. 2013. New York, NY: Bloomsbury Press. ISBN: 9781620400593.</li></ul> Optional: <ul style="list-style-type: none"><li>• <a href="#">Gans, Herbert J.</a> 1991. <i>People, Plans and Policies: Essays on Poverty, Racism and other National Urban Problems</i>. New York: Basic Books. ISBN: 9780231074632.</li><li>• <a href="#">Klemek, Christopher</a>. 2011. <i>The Transatlantic Collapse of Urban Renewal</i>. Chicago: University of Chicago Press. ISBN: 9780226095959.</li></ul> Thursday:
LECTURE NOTES	1	Planning as Theory & Practice	<ul style="list-style-type: none"><li>• Marcuse, Peter. 2009. "From Critical Urban Theory to the Right to the City." <i>City</i> 13(2-3), 185-197.</li><li>• <a href="#">Gilloth, Robert P.</a> 2007. "Investing in Equity: Targeted Economic Development for Neighborhoods and Cities" and "Full Employment and Local Workforce Policies and Policies" in Bennett, Michael L.J. and Robert P. Giloth (eds.), <i>Economic Development in American Cities: the Pursuit of an Equity Agenda</i>. Albany: State University of New York Press. ISBN: 9780791471333.</li><li>• Davidoff, Paul and Thomas Reiner. 1962. "A Choice Theory of Planning." <i>Journal of the American Institute of Planners</i> 28(2), 103-115.</li><li>• Gilmore, Ruth Wilson. 2002. "Fatal Couplings of Power and Difference: Notes on Racism and Geography." <i>Professional Geographer</i> 54(1), 15-24.</li></ul> Optional: <ul style="list-style-type: none"><li>• <a href="#">Scott, James C.</a> 1998. <i>Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed</i>. New Haven, CT: Yale University Press. ISBN: 9780300070163.</li></ul>
ASSIGNMENTS			
DOWNLOAD COURSE MATERIALS			

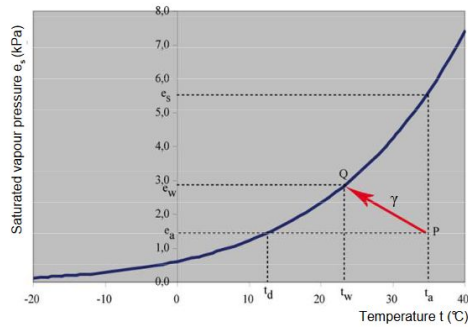
Readings list from MIT Equity and Inclusion course

- Majority of OCW analyzed categorized as 'closed' with one being 'mixed' and one being 'most open'
- Closed OCW relied on paid textbooks. Many MIT courses featured Amazon links in their reading lists
- TU Delft Public Hygiene and Epidemiology best example of an open course
  - Completely custom openly licensed course readings
- Lack of openness

# Assessment

## ANSWERS Practical Day 1

### Exercise Humidity



In the figure above you see (an example of) the relation between vapour pressure and temperature. The curved line indicates the saturation vapour pressure as a function of temperature. The relation of the curved line is:

$$e_s(t) = 0.61 \exp\left(\frac{17.3t}{237 + t}\right)$$

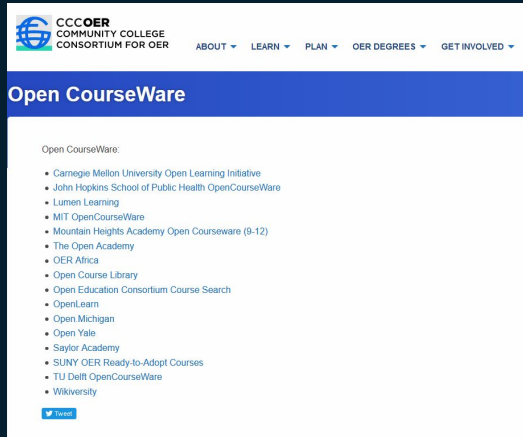
With a psychrometer the actual vapour pressure  $e_a(t_a)$  can be determined through the relation  $e_a(t_a) - e_s(t_w) = -0.066(t_a - t_w)$ . This relation is indicated by the arrow between point P and Q.

At a certain moment the following temperatures are measured with a psychrometer: 25° C and 17,5 °C

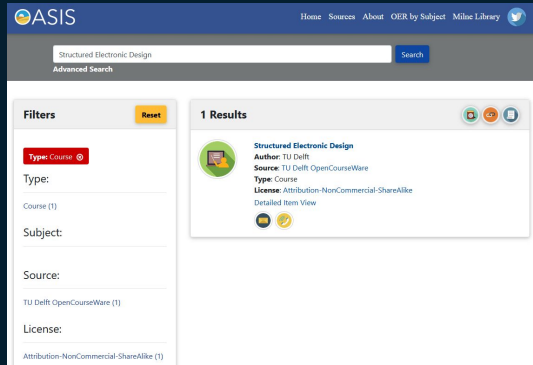
Assignment answer sheet from TU Delft Hydrology of Catchment, Rivers and Deltas course

- > All courses categorized as mixed, with some exceptions
- > Qualitative assessments were provided - sometimes with examples student work
- > Natural sciences courses had more quantitative assessments, often with assessments and solutions available
- > Factor that appears to be relatively easy to make open

# Digital Distribution



CCCOER "Open CourseWare" website



OASIS course search results for "Structured Electronic Design"

- > All courses were categorized as most open
- > Each course was discoverable through a range of OER repositories such as OASIS, OER Commons, Merlot, etc.
- > Success story for OER/OCW, as 'finability', or a lack of federated searches, is a common instructor complaint



# File format

LEC #	TOPICS	FILES
<b>Introduction</b>		
1	Introduction	(PDF)
<b>Demand</b>		
2	Overview of consumer theory	(PDF)
3	Discrete choice analysis I	(PDF)
4	Discrete choice analysis II	(PDF)
5	Travel demand modeling	(PDF)
6	Freight demand	(PDF)
<b>Public transportation</b>		
7	Organizational models (Courtesy of John Attanucci. Used with permission.)	(PDF)
8	Path choice models (Courtesy of John Attanucci and Nigel Wilson. Used with permission.)	(PDF)

Screenshot of PDF lecture notes from MIT Public Transportation Systems course

- › Majority of courses analyzed were categorized as closed
- › Most assignments, assessments, and other course materials almost exclusively provided in non-editable PDF
- › Closed nature most surprising given how easy it is to upload multiple file formats to a given platform
- › Video:
  - › Transcripts usually available as a separate file
  - › What is an 'open' video format?
- › 'Harvestability' remains an unanswered question to be addressed in another study

# Cultural considerations



Discussion of Mumbai transit system in lecture from MIT Public Transportation Systems Course

## 1 Classification of life on planet Earth

Maybe this is an odd title, but we can't exclude the possibility that

- a. there is life out in the universe (the field of the so called exobiology)
- b. that the beginning of life on our planet was of extraterrestrial origin. This last means however only a shift of the intriguing puzzle of how life came into existence.

The classification of living nature that we already know from the Bible is that in plants and trees, and animals (that creepeth upon the earth, and fowl and cattle), and at last: man. In fact these categories were always kept, also by the 18<sup>th</sup> century Swedish biologist Carolus Linnaeus who worked in Uppsala but also for some years in Holland.

Reference to the Bible in "Classification of Life on Planet Earth" reading from TU Delft Public Hygiene and Epidemiology course

- Most difficult factor to address
- More technical courses tended to be very open and had little jargon
- Courses featuring culturally specific content, or depend on geographic examples were less open
- Cultural Considerations factor ultimately decided to be too subjective to assess and was moved to 'other considerations' in the revised framework

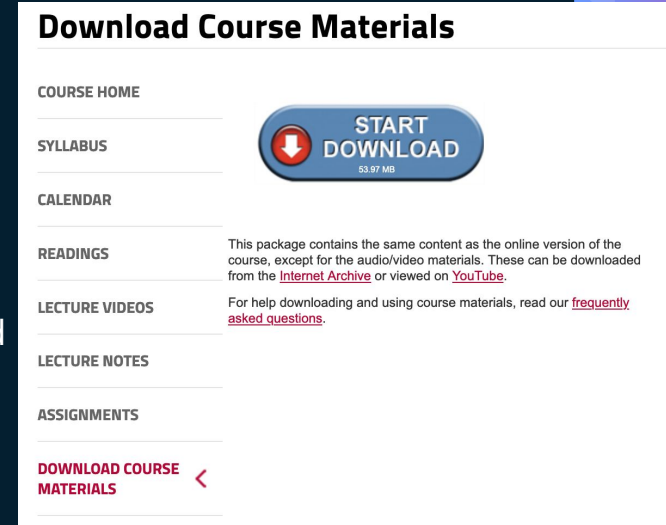
# Revised framework

- Digital Distribution changed to 'Discoverability'
- Usability and Cultural Considerations moved to 'Other Considerations' section
- Factors divided into two umbrella categories
  - Technical Factors
  - Pedagogical Factors

	Closed	Mixed	Most Open
<b>TECHNICAL FACTORS</b>			
<b>Copyright &amp; Licensing</b>	Copyright/all rights reserved	Less open Creative Commons (CC) Licence Terms (e.g. Non-Commercial or Share-Alike)	CC Attribution (CC-BY) Licence/Public Domain
<b>File Format</b>	A print resource, document image, PDF, or another non-editable format that cannot be altered without expensive software or by re-typing	The editable proprietary file format that could be adapted using open software (e.g. .docx file edited using LibreOffice)	Fully open file format (e.g. HTML or .odt) that could be edited using either open or proprietary software.
<b>Discoverability</b>	Closed/available only to insiders (e.g. via a learning management system)	Open but low discoverability (e.g. institutional repository)	Open and high discoverability (e.g. YouTube) or broadly available repository (e.g. Merlot, BC Campus, etc.)
<b>PEDAGOGICAL FACTORS</b>			
<b>Language</b>	Single language	Bi-lingual or includes guides/steps for translation	Multi-lingual or includes guides/steps for translation and is bilingual
<b>Materials</b>	Paid resources (Eg. Print and electronic textbooks)	Licensed library resources (Free to students but paid for by the institution)	Openly licensed resources (Open textbooks, open-access journal articles, and other open materials)
<b>Assessment</b>	No assessments made publicly available, using an open licensing framework and are not shared through an OER repository	Assessments are publicly available using an open license; learners can self-assess, but they are not meaningful (i.e. questions and assignment descriptions only)	Assessments made publicly available using an open license; meaningful self-assessment is possible (i.e. questions and answers provided)
<b>Accessibility</b>	Not formatted for accessibility	Some accessibility formatting (e.g. closed captioning)	Fully accessible (e.g. US HHS 508 or W3C)
<b>Other considerations (non-measurable)</b>	<b>Cultural considerations</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Are there considerations for outside/culturally diverse users?</li> <li><input type="checkbox"/> Are the materials/content culturally specific?</li> </ul> <b>Usability</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Is the interface easy to navigate for users?</li> <li><input type="checkbox"/> Is the design responsive (for mobile devices)?</li> </ul>		

# Lingering questions: Harvestability

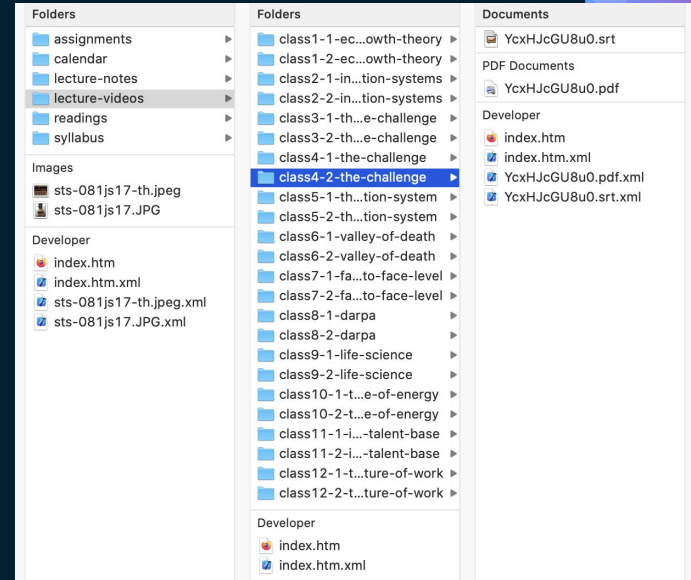
- › 'Harvestability' an additional factor or consideration?
  - › MIT allowed 'full' download of the course content - *except* video files. Those must be downloaded individually, as only transcripts & closed captions are provided in archive



Screenshot of MIT's "Download Course Materials" Function

# Lingering questions: Openness of Video

- Openness of video or audio formats still an open question
  - Should File Format address just the *type* of format provided (MP4, MP3, MKV, MOV, AAC, etc.)
  - Or, should it also take into account editability - i.e. availability of unedited footage or audio



# Lingering questions: Volume of Content

- Framework focuses on openness, not quality
- Volume of content also escapes evaluation
  - Course can be 'open' but have little content
  - E.g. MIT Introduction to Art History course had list of works for each week, but not lecture

The screenshot shows the MIT OpenCourseWare website interface. At the top, there's a navigation bar with the MIT OpenCourseWare logo, a search bar, and links for 'Home', 'Contact Us', and 'Subscribe to the OCW Newsletter'. Below the navigation bar, there's a breadcrumb trail: 'Home » Courses » Architecture » Introduction to Art History » List of works » Part II (weeks 6-10)'. The main heading is 'Part II (Weeks 6-10)'. A note states: 'Please note: You may be asked specifically about **bolded** works on exams.' The page is divided into sections: 'COURSE HOME', 'SYLLABUS', 'CALENDAR', 'LISTS OF WORKS', 'READINGS', and 'ASSIGNMENTS'. The 'LISTS OF WORKS' section is expanded, showing 'PART II (WEEKS 6-10)'. Under this, there's a list of works for 'Week 6' and 'Week 7'. The list includes works by Artemisia Gentileschi, Pieter Saenredam, Michelangelo Buonarroti, Marcello Venusti, Pellegrino Tibaldi, Caravaggio, Gianlorenzo Bernini, Andrea del Pozzo, Giovanni Battista Casali, David Teniers II, Bernini, Gentileschi, and Frans Hals. Some works are bolded, indicating they are likely to be asked about in exams.

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Home | Contact Us

Home » Courses » Architecture » Introduction to Art History » List of works » Part II (weeks 6-10)

## Part II (Weeks 6-10)

Please note: You may be asked specifically about **bolded** works on exams.

COURSE HOME

Week 6

SYLLABUS

CALENDAR

LISTS OF WORKS

PART I (WEEKS 2-5)

**PART II (WEEKS 6-10)**

PART III (WEEKS 11-15)

READINGS

ASSIGNMENTS

DOWNLOAD COURSE MATERIALS

Week 6

1. Artemisia Gentileschi (1593–c. 1652), *Judith and Holofernes*, c. 1620
2. Pieter Saenredam (1597–1665), *Interior of the Church of Saint Sava at Haarlem*, 1638
3. *Purging of the Temple* (detail), woodcut, 1563, and relief sculptures, Church of St. Steven, Nijmegen, damaged by iconoclasts, 1566
4. Michelangelo Buonarroti (1475–1564), *Last Judgment*, Altar Wall of the Sistine Chapel, Vatican City, Rome, 1534–41
5. Marcello Venusti (1512/15–1579), *Last Judgment*, after Michelangelo, 1549
6. Pellegrino Tibaldi (1527–1596), *Adoration of the Shepherds*, 1549
7. Caravaggio (Michelangelo Merisi) (1571–1610), Contarelli Chapel, S. Luigi dei Francesi, Rome, c. 1597–1601: ***St. Matthew and the Angel***, 2<sup>nd</sup> version, ***Calling of St. Matthew***, *St. Matthew and the Angel*, 1<sup>st</sup> version
8. Gianlorenzo Bernini (1598–1680), Cornaro Chapel, Santa Maria della Vittoria, Rome, 1645–52: ***Ecstasy of St. Teresa***
9. Andrea del Pozzo (1642–1709), *Allegory of the Missionary Work of the Jesuits*, San Ignazio, Rome, 1694 (also called *Glorification of St. Ignatius of Loyola*), 1691–1694
10. Giovanni Battista Casali (1591–1666), ***Triumph of the Name of Jesus***, Il Gesù, Rome, 1676–1679
11. David Teniers II (1610–1690), *Archduke Leopold Wilhelm in his Picture Gallery in Brussels*, c. 1647
12. Bernini, ***Apollo and Daphne***, 1622–24
13. Gentileschi, *Judith and Her Maidservant with the Head of Holofernes*, c. 1625
14. Gentileschi, ***Sleeping Venus***, 1625–30

Week 7

1. Gianlorenzo Bernini (1598–1680), *Pluto and Proserpina (Persephone)*, 1621–22
2. Claes Jansz Visscher (1667–1652), *Leo Hollandicus*, 1648
3. Map of 17<sup>th</sup>-century Dutch trade routes
4. Visscher 'Huis ter Kleet', from *Pleasant Places*, etching, 1611
5. Jacob van Ruysdael (c. 1628–1682), ***View of Haarlem from the Dunes at Overveen***, c. 1670
6. Dutch view of New Amsterdam (now New York City), 1654; Dutch trading post in Bandar Abbas, Persia (now Iran), 1704; Dutch elevation drawing of Nagasaki coastline, Japan, 1661
7. Frans Hals (c. 1581–1666), *Isaac Massa and Beatrix van der Laen*, c. 1622
8. Hals, *Pieter van den Broecke*, c. 1633
9. Rembrandt van Rijn (1606–1669), *The Company of Captain Frans Banninck Cocq (The Night Watch)*, 1642
10. Hals, *Milto Babin*, c. 1630–33

Screenshot of "List of Works" from MIT Introduction to Art History course

# Conclusions: Where can we focus?

**Copyright** ⚠

**File Format** ❌

**Discoverability** ✓

**Language** ❌

**Assessment** ⚠

**Accessibility** ⚠ ✓

**Material Costs** ❌

- › File format: Multiple editable formats as long as they're commonplace
  - › Eg. .docx, .xlsx, .pptx, .txt, etc.
- › Language: Can be addressed by little things
  - › Eg. Glossary
  - › Complete translation labour intensive and not always necessary
- › Materials: Use open academic articles instead of paid textbooks/closed articles *where possible*

# Future research



Comprehensive assessment of large OCW sample using revised framework



Further exploration of OCW harvestability

- Ability to download course once critical to geographic locations with limited bandwidth



Better understand how instructors locate and adapt OCW to their own context



Photo by [Javier Allegue Barros](#) on [Unsplash](#)





# THANKS!

## Erik Christiansen

- Email: [echristiansen@mtroyal.ca](mailto:echristiansen@mtroyal.ca)
- Website: [erikchristiansen.net](http://erikchristiansen.net)

## Michael McNally

- Email: [mmcnally@ualberta.ca](mailto:mmcnally@ualberta.ca)
- Website: <https://apps.ualberta.ca/directory/person/mmcnally#Overview>

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# Courses Examined

## *MIT OCW*

- [Public Transportation Systems \(Spring 2017\)](#)
- [Equity and Inclusion: Local Policy Driven Strategies for Economic Development and the Just City \(Spring 2019\)](#)
- [Introduction to Art History \(Fall 2018\)](#)
- [Innovation Systems for Science, Technology, Energy, Manufacturing, and Health \(Spring 2017\)](#)
- [Biological Chemistry II \(Spring 2016\)](#)

## *TU Delft OCW*

- [Public Hygiene and Epidemiology](#)
- [Hydrology of Catchments, Rivers and Deltas](#)
- [System Validation](#)
- [Structured Electronic Design](#)
- [Drinking Water Treatment 2](#)