Designing a Student-Centered Course Outline

LEARNING TO TEACH DAY
November 10, 2018
Dr. Amanda Jarrell and Sophie-Marie Schönberg

Teaching and Learning Services
http://www.mcgill.ca/tls
Workshop Objectives

Today you will learn how to:

• recognize the main components of a course outline (e.g., course overview, learning outcomes, instructional method etc.).

• write student-centered learning outcomes

• understand the link between learning outcomes and assessment
Workshop Agenda:

• Introductions & workshop objectives
• Understanding **student-centred learning**
• Designing **course outlines**
  – main components
  – curriculum alignment
  – Backwards mapping
• Formulating **learning outcomes**
• Bringing it all together
What do you associate with student-centred learning?

Text SOPHIE MARIES234 to 37607 to respond
or go to PollEv.com/sophiemaries234
What is student-centred learning?

- facilitating learning with the students’ needs in mind
- active rather than passive learning
- emphasis on deep learning and understanding
- increased responsibility and accountability on the part of the student
- learner autonomy
- interdependence between teacher and learner
- mutual respect within the learner teacher relationship

Lea et al. (2003: 322)
Student-centred course outline

• What can and should students learn in relation to the course?
• How can students’ performance be assessed?
• How can such learning be facilitated?
Activity: Course outlines
(10 minutes)

Each group will receive a course outline:
- Identify two student-centred elements.
- Identify the main components.
Course Outline

1. General Information

– Course # & Section #
– Term & Year
– Course pre-requisite(s)/Course co-requisite(s)
– Course schedule (day and time of class)
– Number of credits
– Course location
Course Outline

2. Instructor and TA Information

– Name
– E-mail (Telephone number for office appointments)
– Office hours for students
– Office location
3. Course Overview

Enter the course description as it appears in the eCalendar.

Go to https://mcgill.ca/study to open the eCalendar, then enter the course number in the search field to find your course.
Course Outline

4. Learning Outcomes
What are learning outcomes?

• Clear statements of the **skills, knowledge, attitudes, and values** that **students** will develop as a result of participating in your session

  “By the end of this course students will...”
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• understand the link between learning outcomes and assessment
Why use learning outcomes?

• For instructors:
  – Guide decisions about content, strategies & assessment

• For students:
  – Make instructors’ expectations explicit
Useful learning outcomes...

• focus on student learning
• are clear and concise
• are measurable
• are achievable
• Knowledge of free-space optical systems
  
  o **Understand** the different free-space optical systems
  o **Learn** to implement free-space optical systems

✓ **Analyze** a wide range of different free-space optical systems including imaging, communication and illumination systems
✓ **Evaluate** the effects of polarizations, interference, diffraction and lens aberrations on system performance
✓ **Use** modern optical design software to stimulate and evaluate free-space optical systems
Bloom’s Taxonomy of Educational Objectives

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Useful Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Remember: recall of information</td>
<td>define, identify, list, name, recall, repeat, state</td>
</tr>
<tr>
<td>2)</td>
<td>Understand: demonstration of comprehension</td>
<td>classify, describe, locate, report, restate, summarize</td>
</tr>
<tr>
<td>3)</td>
<td>Apply: applying knowledge in a new context</td>
<td>employ, illustrate, solve, use</td>
</tr>
<tr>
<td>4)</td>
<td>Analyze: supporting assertions through the use of evidence and arguments; identifying causes and patterns</td>
<td>compare, contrast, criticize, distinguish, examine, question, test</td>
</tr>
<tr>
<td>5)</td>
<td>Evaluate: coming to a judgment on the value of information or the validity of arguments</td>
<td>appraise, argue, assess, defend, predict, select, support</td>
</tr>
<tr>
<td>6)</td>
<td>Create: combining or grouping knowledge to come to new conclusions</td>
<td>assemble, collect, construct, develop, formulate, organize, propose</td>
</tr>
</tbody>
</table>
Is this a good learning outcome?

This class will give students an overview of 19th century North American literature to convey a basic understanding of the literary genre of the novel.
Critiquing your learning outcomes:

This class will give students an overview of 19th century North American literature to convey a basic understanding of the literary genre of the novel.

Is the learning outcome:
• Learner oriented – focused on what students will be able to do?
• Clear and concise?
• Measurable?
• Achievable?
Developing learning outcomes

– What essential knowledge and skills must students have to be able to succeed in the course?
– What knowledge or skills do students bring to the course?
– What knowledge or skill will be new to students in the course?
– What other areas of knowledge are connected to the work of the course?
Activity: Peer feedback
(10 minutes)

1. Write one learning outcome statement for your students:
   “Students will be able to...

   remember/analyze/evaluate/create/apply

✓ focus on student learning
✓ are clear and concise
✓ are measurable
✓ are achievable

2. Now discuss with a partner!

3. We’ll regroup and share
Course Outline

5. Instructional Method

– brief description of instructional approaches (laboratory or clinical activities, group projects etc.)
– additional information relevant to the course
– intended use of technologies such as polling, videoconferencing, and myCourses
LEARNING OUTCOMES

✓ **Analyze** a wide range of different free-space optical systems including imaging, communication and illumination systems

✓ **Use** modern optical design software to stimulate and evaluate free-space optical systems

LEARNING ACTIVITIES

--- **Group activity**: the students will compare and contrast different free-space optical systems in small groups

--- **Practice in a lab**: each student will evaluate one example of a free-space optical system with the software in the lab
Activity: Learning activities  
(10 minutes)

1. Read your learning outcome statement again and try to think of an activity that will bring the students closer to achieving this goal.

2. Share with the group.
Course Outline

6. Required Course Materials

• provide specific information about required readings, including availability (from where they can be purchased or borrowed)
• indicate how each reading relates to a particular topic in the course
Course Outline

7. Course Content

• describe the topics to be addressed in the course
• provide concept map or graphic representation of the content of the course
## Graphic representation – Example 1

<table>
<thead>
<tr>
<th>Class/Topic</th>
<th>Date</th>
<th>Description</th>
<th>Assignments and/or readings Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>e.g., topic, content, associated readings, activities.</td>
<td>e.g., quiz, paper, group project, exam.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... 13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[https://www.mcgill.ca/tls/teaching/course-design/outline](https://www.mcgill.ca/tls/teaching/course-design/outline)
## Tentative Course Schedule

<table>
<thead>
<tr>
<th>Wk</th>
<th>Lecture Topics</th>
<th>In class exercise</th>
<th>Lab Exercise</th>
<th>Graded Assessment</th>
<th>Pts</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 9-13 (Ch 1)</td>
<td>What is a model? The modelling cycle. Model formulation: Diagramming models; difference and differential equations</td>
<td>How to IDENTIFY good modelling questions. FORMULATE a mathematical model: Logistic population growth</td>
<td>IDENTIFY good modelling questions. Group dynamics exercise. FORMULATE a mathematical model (group chalk talk). (QNC 1506)</td>
<td>Assign 1: IDENTIFY &amp; FORMULATE</td>
<td>5</td>
</tr>
<tr>
<td>S 16-20 (Ch 2 &amp; 3)</td>
<td>Intro to analysis (numeric techniques for discrete time models): Explicit solutions</td>
<td>ANALYZE: exact solutions</td>
<td>Matlab intro I. ANALYZE: explicit solutions (B1 370)</td>
<td>Assign 1: IDENTIFY &amp; FORMULATE</td>
<td>5</td>
</tr>
<tr>
<td>S 23-27 (Ch 4)</td>
<td>Cobwebbing, Bifurcation diagram)</td>
<td>ANALYZE: Cobwebbing discrete time logistic growth</td>
<td>TBD (QNC 1506/B1 370)</td>
<td>Assign 1: IDENTIFY &amp; FORMULATE</td>
<td>5</td>
</tr>
<tr>
<td>S 30- O 4 (Ch 5)</td>
<td>Stability analysis of one variable continuous time models: Phase Line Analysis, Local stability analysis</td>
<td>ANALYZE: Allee model</td>
<td>Matlab intro II. ANALYZE bifurcation diagrams (group) (B1 370)</td>
<td>Project A: IDENTIFY (group present and written bibliography)</td>
<td>5</td>
</tr>
</tbody>
</table>

[https://uwaterloo.ca/centre-for-teaching-excellence/support-faculty-and-staff/course-outline-exemplars](https://uwaterloo.ca/centre-for-teaching-excellence/support-faculty-and-staff/course-outline-exemplars)
# Graphic representation – Example 3

## DEUTSCH 202 - Herbstsemester 2016 - Semesterplan

<table>
<thead>
<tr>
<th>TAG/THEMEN</th>
<th>TEXTBUCH</th>
<th>HAUSAUFGABEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>Read and study the following pages for the day indicated on the syllabus</em></td>
<td>ONLINE WORKBOOK (=CONNECT GERMAN)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ANDERE AUFGABEN (= Other Assignments)</td>
</tr>
</tbody>
</table>

### Glossar am Ende! (=Glossary of key terms on the last page)

#### 1. Woche

1) Fr. 2.
   **September**
   **Einführung A**

   [Für den nächsten Tag = For the next day]
   - Kaufen Sie (Buy) das Textbuch und Online Workbook!
   - Connect: a. Orientierung & FAQ
   - b. Lesen Sie (Read) Handout „Useful Classroom Expressions“
   - Mycourses: Lesen Sie „Course Outline“ und „Syllabus“

2) Mi, 7.
   **September**
   **Einführung A**

   [Für diesen Tag = For this day]
   - Lesen Sie S.2, 4-6 (Einführung A, Aufforderung, Namen)
   - Lernen Sie Grammatik S.19-21 (A.1-A.3: Polite commands, „heißen“, cases)

   [Für den nächsten Tag = For the next day]
   - Connect: Woche 1 – Einführung A – Teil 1
   - N.B.: a. Complete the exercises online on the Connect German website! Deadlines are listed on the website. Exercises must be completed by 11:59 p.m. on due dates unless indicated otherwise. 10% are deducted per day late.
8. **Evaluation**

- describe the means of evaluation to be used in the course
- list the assignments and exams that will make up the students’ grade
- include a clear statement of what percentage of the final grade each assignment and exam will represent
Course Outline

8. Evaluation

• describe the grading criteria
• remind student of the consequences of a delayed presentation or late paper (possibility of extensions, if any; acceptable circumstances for a delay; penalties)
LEARNING OUTCOMES

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ASSESSMENT

---→ **In-class presentation**: each student will present the findings of his/her analysis

---→ **Take home practical exam**
Course Outline

9. McGill Policy Statements

• Language of Submission
• Academic Integrity
• Additional statements (optional)
  – accommodation of students with disabilities
  – land acknowledgement statement
  – guidelines for the use of mobile computing and communications etc.
Course Outline

9. McGill Policy Statements

• Language of Submission

“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. This does not apply to courses in which acquiring proficiency in a language is one of the objectives.”

(Approved by Senate on 21 January 2009 - see also the section in this document on Assignments and Evaluation.)
9. McGill Policy Statements

• Language of Submission

« 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 (sauf dans le cas des cours dont l’un des objets est la maîtrise d’une langue). »
Course Outline

9. McGill Policy Statements

• Academic Integrity

“McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of 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).

(Approved by Senate on 29 January 2003)
9. McGill Policy Statements

• Academic Integrity

« L’université McGill attache une haute importance à l’honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l’on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l’étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site www.mcgill.ca/students/srr/honest/). »
Course Design – the concept of alignment

- Curriculum alignment in course design starts with the end in mind (Biggs, 1999). It means ensuring that the learning outcomes are in alignment with teaching strategies and assessment.

Centre for the Advancement of Teaching and Learning, University of Manitoba
http://intranet.umanitoba.ca/academic_support/catl/resources/alignment.htm
Course Design – the concept of alignment

• connect learning activities, assessment tools, and learning outcomes
• create a supportive and challenging learning environment
Course Design – the concept of alignment

• What are the ‘desired’ outcomes?
• What teaching methods require students to behave in ways that are likely to achieve those outcomes?
• What assessment tasks will tell us if the actual outcomes match those that are intended or desired? (Biggs, 1999)
Figure 1: Suggested Model of an Aligned Curriculum

- Learning outcomes are identified and formulated
- Criteria and tools that assess learning outcomes are established
- Teaching activities that support learning outcomes are developed

Figure 1 by UCD Teaching and Learning (University College Dublin) is licensed under a Creative Commons Attribution 3.0 Unported License.
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References

- https://www.mcgill.ca/tls/teaching/course-design/outline
- https://teaching.utoronto.ca/teaching-support/course-design/developing-a-syllabus/
- http://intranet.umanitoba.ca/academic_support/catl/resources/alignment.htm
Thank you!

Questions?

Teaching and Learning Services
http://www.mcgill.ca/tls/