



Department of Curriculum and Pedagogy

EDCP 377-301 Design & Technology II - Secondary: Curriculum and Pedagogy

(3 Credits) (Winter 2018)

<p>Instructor: Theresa Magee Email: temagee@mail.ubc.ca Coordinating Professor: Dr. Stephen Petrina WWW: http://blogs.ubc.ca/dandt</p>	<p>Office Hours: By appointment, M, W Location: Scarfe Bldg., Room 1106 Time: Friday - 9:00am - 12 Noon</p>
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COURSE DESCRIPTION

This course complements EDCP 374, again providing an effective encounter between the "what to teach" and "how to teach." The course focuses on curriculum, learning, and teaching in the new Applied Design, Skills, and Technologies (ADST) cluster in British Columbia. Technology Education in ADST has traditionally been called Design and Technology (D&T) Education and commonly represents the T and E in Science, Technology, Engineering, Arts and Mathematics (STEAM) education. Technology Education extends to include other domains within ADST, including ICT and Media Arts.

The Design & Technology¹ course (EDCP 374) focuses on the development of instructional materials, unit and lesson plans. This course (EDCP 377) focuses on lesson planning and practice teaching or microteaching. The main goal is to provide the fundamentals for teaching design, engineering, technology education and information and communication technology. The intention is to help students develop a framework for understanding themselves as a teacher, and technology as a field of study and school curriculum.

Purpose of the Course

The purpose of this course is to prepare teacher candidates with the knowledge, attitudes and skills to enhance learning in the context of teaching technology education, including ICT (Information and Communications Technology) and Media Arts, in ADST.

COURSE OBJECTIVES

This course aims to help teachers:

1. Demonstrate an appreciation for systematic lesson planning.
2. Demonstrate an appreciation and understanding of the design process.
3. Develop artful and logical approaches to demonstrating and presenting in the classrooms, labs and workshops.
4. Develop a design brief, an instructional material, as part of the planning process in the design of curriculum.

PARTICIPATION AND ASSIGNMENTS

Students will complete the following assignments:

1. Participation: Complete all readings and participate fully in activities, lectures and discussions.	25%
2. 4x - Microteaching and Lesson Plans: The intention of this requirement is to help you develop artful and logical approaches to demonstrating and presenting in the classrooms, labs and workshops. This will also provide a tangible way of understanding the importance of small scale planning in curriculum. For each of the microteaching demonstrations that you do, you are required to hand in a lesson plan a week before the demonstration.	60% (15% each assignment: planning and presentation)
3. Reflection for #1 Microteaching (groups of 4)	15%

ASSIGNMENT SCHEDULE

Due date	Assignment
<p>Micro-teaching presentations 4 dates for presentation: Friday</p> <ol style="list-style-type: none"> October 5: Hand Tool (eg. Vernier Caliper, chisels, etc.) October 26: Machinery (hand-held power tool or machinery available in class) November 9: Computer based (eg. AutoCADD, PowerPoint, etc.) December 7: Choice of coding, unplugged, Lego Mindstorm, VEX robotics or games design. 	<p>Micro-teaching presentations x 4, with a lesson plan for each handed in a week ahead.</p>
<p>Reflection for #1 Microteaching October 12: In-class work for Feedback and Reflection 1-page short analysis due by Oct. 19 (no class on this date)</p>	<p>Feedback and Reflection: In the small group session you will meet with 4-5 of your peers and will receive feedback on your teaching and give feedback to the other group members on theirs. Prepare a short analysis (1 page) of reflections on your first lesson along with an assessment of several aspects of your microteaching that you need to work on in the future. Your video analysis / reflection will be handed in to your instructor and shared with a group of peers for feedback. We will be expecting to see continued growth through the term as well as progress on aspects of your teaching that that require more work (Petrina's Text: Chapters 1 and 4).</p>
	NO LATE ASSIGNMENTS ACCEPTED

ASSESSMENT AND MARKS

The course is graded. The standard for a pass within the B.Ed. program is equivalent to a B+ (76%) in UBC's standard marking system.

EDCP Grading Guidelines - July 2008

A level - Good to Excellent Work

- A+ (90-100%) A very high level of quality throughout every aspect of the work. It shows the individual (or group) has gone well beyond what has been provided and has extended the usual ways of thinking and/or performing. Outstanding comprehension of subject matter and use of existing literature and research. Consistently integrates critical and creative perspectives in relation to the subject material. The work shows a very high degree of engagement with the topic.
- A (85-89%) Generally a high quality throughout the work. No problems of any significance, and evidence of attention given to each and every detail. Very good comprehension of subject and use of existing literature and research. For the most part, integrates critical and creative perspectives in relation to the subject material. Shows a high degree of engagement with the topic.
- A- (80-84%) Generally a good quality throughout the work. A few problems of minor significance. Good comprehension of subject matter and use of existing literature and research. Work demonstrates an ability to integrate critical and creative perspectives on most occasions. The work demonstrates a reasonable degree of engagement with the topic.

B level - Adequate Work

- B+ (76-79%) Some aspects of good quality to the work. Some problems of minor significance. There are examples of integrating critical and creative perspectives in relation to the subject material. A degree of engagement with the topic.
- B (72-75%) Adequate quality. A number of problems of some significance. Difficulty evident in the comprehension of the subject material and use of existing literature and research. Only a few examples of integrating critical and creative perspectives in relation to the subject material. Some engagement with the topic.
- B- (68-71%) Barely adequate work at the graduate level.

NOTE: For UBC's Faculty of Graduate Studies (FOGS), a final mark below 68% for Doctoral students and below 60% for Masters students is the equivalent of a Failing mark.

C & D level - Seriously Flawed Work

- C (55-67%) Serious flaws in understanding of the subject *material*. Minimal integration of critical and creative perspectives in relation to the subject material. Inadequate engagement with the topic. Inadequate work at the graduate level.

D level

- D (50-54%)

F level - Failing Work

- F (0-49%)

POLICIES

Policies regarding attendance and missed or late assignments follows those recommended by the University and the Faculty of Education.

- **Attendance policy:** If you must miss a class, notify the TEO and your instructor immediately. The nature of the Teacher Education Program is participatory. Teacher candidates who miss a significant amount of class time (i.e., more than 15% of course hours) are normally required to repeat the course. Teacher candidates are not able to proceed to practicum until all prior courses are successfully completed.
See <http://teach.educ.ubc.ca/students/policies-and-guides/>
- **Academic Honesty and Standards, and Academic Freedom:** Please refer to *UBC Calendar Policies and Regulations (Selected)*: <http://www.students.ubc.ca/calendar>
- **Academic Accommodation for Students with Disabilities:** Students with a disability who wish to have an academic accommodation should contact the Disability Resource Centre without delay (see UBC Policy #73 www.universitycounsel.ubc.ca/policies/policy73.pdf).

TEXTS

Required:

1. Petrina, S. (2007). *Advanced teaching methods for the technology classroom*. Hershey, PA: Information Science Publishing. Download from <https://blogs.ubc.ca/dandt/files/2014/07/Petrina2007.pdf>
2. BC Ministry of Education documents: all ADST curriculum documents for Technology Education, ICT, and Media Arts. Download from BC Ministry <https://curriculum.gov.bc.ca/curriculum>
3. Applied Design, Skills and Technologies Framework:
<https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/applied-skills.pdf>

Recommended:

1. Crawford, M. B. (2009). *Shop Class as Soulcraft: An inquiry into the value of work*. New York, NY: Penguin.
2. ITEA. (2000). *Standards for technological literacy*. Reston, VA: author. <https://www.iteea.org/File.aspx?id=42513&v=2a53e184>

When possible, handouts are available online for download. However, a photocopying fee will be charged for any hardcopy handouts.

COURSE OUTLINE: EDCP 377 - Winter 2018

Week 1-4: Guiding Features in Technology Education Teaching Practice	
Week 1 Friday, Sept. 7	Introduction: Coursework expectations <ul style="list-style-type: none">• Assignments• BC's new curriculum, <i>Standards for the Education, Competence and Professional Conduct of Educators</i> in BC
Activities	Self-Portrait - 5-minute presentation (17 students)
Readings	<ol style="list-style-type: none">1. BC's new curriculum: https://curriculum.gov.bc.ca2. https://curriculum.gov.bc.ca/curriculum3. http://www.bcteacherregulation.ca/Standards/StandardsDevelopment.aspx4. https://www.bcteacherregulation.ca/documents/AboutUs/Standards/edu_stds.pdf

Week 2: ADST Curriculum: Communicating and Planning for Instruction (Sept. 14)	
Guiding Questions	<ul style="list-style-type: none"> • What's in a word: Technology? Technology Education? Design? Design Thinking? • ADST: Applied Design, Skills and Technologies
Activities	<ul style="list-style-type: none"> • ADST Activities
Readings	<ol style="list-style-type: none"> 1. BC's new curriculum: https://curriculum.gov.bc.ca 2. (Core Competencies) https://curriculum.gov.bc.ca/competencies 3. Petrina, S. (2007). <i>Advanced teaching methods for the technology classroom</i>. Hershey, PA: Information Science Publishing, Chapter 1: Communicating and Planning for Instruction <p>Bruce Nussbaum, one of Design Thinking's biggest advocates (04/05/11)</p> <p>https://www.fastcodesign.com/1663558/design-thinking-is-a-failed-experiment-so-whats-next</p> <p>What's in a word? Technical, technology,</p> <ul style="list-style-type: none"> • http://www.definitions.net/definition/technical • http://www.thefreedictionary.com/technical • http://www.freethesaurus.com/technical • http://encyclopedia2.thefreedictionary.com/Technical+Education • http://www.definitions.net/serp.php?st=technical • http://encyclopedia.thefreedictionary.com/Technology+Education • http://medical-dictionary.thefreedictionary.com/instructional+technology

Week 3: Organizing Knowledge for Instruction (Sept. 21) (Possible Field Trip to Science World)	
Guiding Questions	<ul style="list-style-type: none"> • How do we expand or transition from TE to STEM or STEAM?
Activities	<ul style="list-style-type: none"> • ADST Activities • Design Activities
Readings	<ol style="list-style-type: none"> 1. BC's new curriculum: https://curriculum.gov.bc.ca 2. (Core Competencies) https://curriculum.gov.bc.ca/competencies 3. Petrina, S. (2007). <i>Advanced teaching methods</i> (Chapters 2 + 7) 4. http://www.technologystudent.com/designpro/problem1.htm

Week 4-7: Instructional Methods and Teaching Practices (Sept. 28 to Nov. 9)	
Guiding Question	<ul style="list-style-type: none"> • What should a repertoire of design and technology teaching practices include?
Activities	<ul style="list-style-type: none"> • ADST Activities: preparing for micro-teaching • Design Activities
Readings	<ol style="list-style-type: none"> 1. Petrina, <i>Advanced teaching methods</i> (Chapter 4: Instructional Methods and Learning Styles)

Week 5: Teaching Practice (Oct. 5)	
Activities	Micro-teaching #1 - Hand Tools Microteaching – presentation in class to be videotaped with peer-review the following week Lesson Plan handed in previous week, Sept. 28
Readings	Petrina, <i>Advanced teaching methods</i> (Chapters 1, 2, 4 + 11)

Week 6: Feedback and Reflection (Oct. 12)	
Guiding Question	<ul style="list-style-type: none"> • Reflecting on past practice (Micro-teaching #1) • How can assessment strategies be used to be a reflective practitioner? • What various kinds of questions should you be using?
Activities	Feedback and Reflection: In the small group session you will meet with 4-5 of your peers and will receive feedback on your teaching and give feedback to the other group members on theirs. Prepare a short analysis (1 page) of reflections on your first lesson along with an assessment of several aspects of your microteaching that you need to work on in the future. Your video analysis / reflection will be handed in to your instructor and shared with a group of peers for feedback. We will be expecting to see continued growth through the term as well as progress on aspects of your teaching that that require more work.
Readings	<ol style="list-style-type: none"> 1. Petrina, <i>Advanced Teaching Methods</i> (Chapter 1 and 4) 2. http://blogs.ubc.ca/dandt/files/2014/07/Petrina2007.pdf

<p>Week 7: NO CLASSES October 19: BCTEA Conference Fraser Heights Secondary School</p>
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Week 8: Teaching Practice (Oct. 26)	
Activities	Micro-teaching #2 - Machinery (own hand-held power tool or machinery available in class) Microteaching – presentation in class to be videotaped with peer-review. Lesson Plan handed in previous week, Oct. 19 (no class)
Readings	Petrina, <i>Advanced teaching methods</i> (Chapters 1, 2, 4 + 11)

Week 9: Classroom Management (Nov. 2)	
Guiding Questions	What is Classroom Management?
Activities	Lecture/discussion: Classroom Management
Readings	Petrina, <i>Advanced teaching methods</i> (Chapter 1: The Concept of Knowledge Media: Past and Future, Chapter 2: Organizing Knowledge for Instruction, Chapter 4: Instructional Methods and Learning Styles, Chapter 11: Classroom Management, Facilities, Design and Safety)

Week 10: Teaching Practice (Nov. 9)	
Activities	Micro-teaching #3 - Computer based (AutoCADD, PowerPoint, Google SketchUp, etc.) Microteaching – presentation in class to be videotaped with peer-review Lesson Plan handed in previous week, Nov. 2

Short Practicum Experience
Week 11-12: November 13 - 23

Week 13, November 30
Guest Speaker: Jamie Girouard, TechEd Teacher at Fraser Academy, Vancouver

Week 14: Teaching Practice (December 7)	
Activities	Micro-teaching #4 - STEM, coding or Robotics Microteaching – presentation in class to be videotaped with peer-review Lesson Plan handed in previous week, Nov. 30
	Wrap-up! Thank you! Enjoy your Christmas Holiday. See you in the Long Practicum.

PARTICIPATION

Participation is interdependent with **preparation** for each class, which involves **reading** (highlighting, pagination post-its, margin notes, comments & questions, etc.), **writing** and **speaking** (discussing, corresponding with peers, chat, etc.). **Activities** also are expected to be completed and presented on their due dates; presentations and assignments should be polished, creative, and informative.

Participation

Fail-----Pass
Appropriately and accurately articulates key constructs and themes in readings, etc. 1-----3.5-----7
Reveals an attempt to synthesize knowledge through readings, discussion, design and development of unit/lesson plans and rubrics for assessment, etc. 1-----5.5-----10
Prepares and plans with innovative and progressive ideas 1-----4-----8
Total: --- / 25

ASSIGNMENTS

- 1. Microteaching and Lesson Plans x4:** The intention of this requirement is to help you develop artful and logical approaches to demonstrating and presenting in the classrooms, labs and workshops. This will also provide a tangible way of understanding the importance of small scale planning in curriculum. For each of the microteaching demonstrations that you do, you are required to hand in a lesson plan a week before your presentation date (**Chapters 1-3**).

Microteaching involves completing a lesson plan or portion of a lesson plan, teaching the lesson or giving a demonstration (or part) to the class, sharing expertise with colleagues, presenting information using appropriate pedagogical approaches and technologies, reflecting on the lesson, and providing feedback to peers. Microteaching will be recorded (video taped). (Please bring your USB flash drive for documenting and self- evaluation).

Each lesson plan should adhere to the template of items provided in the book (*Advanced teaching Methods*): Title, Introduction, Objectives (Goals) and Major Message, Lesson Strategy, Instructional Materials, Tools & Materials, Procedure, Assessment, Special Safety, Integration, Social Context (Relevance), New Terms, Questions, Summary. Lesson Plan Length: 1-2 Pages

Micro-teaching Experience	
Low	High
Lesson Planning (comprehensiveness, clarity of objectives, focus) Goals and Objectives, Comprehensiveness of Information, Assessment, Questioning, Closure 1-----4-----7	
Effectiveness of Lesson Delivery, Motivational Beginning, Voice, Classroom Presence, Non-Verbal Communication, Pacing 1-----3-----5	
Visuals, supplementary materials and Quality 1-----2-----3	
Total: -- / 15 (x4)	

- 2. Feedback and Reflection:** In the small group session you will meet with 4-6 of your peers and will receive feedback on your teaching **and** give feedback to the other group members on theirs. Prepare a **short analysis** (1 page) of reflections on your first lesson along with an assessment of several aspects of your microteaching that you need to work on in the future. Your video analysis / reflection will be handed in to your instructor and shared with a group of peers for feedback. We will be expecting to see continued growth through the term as well as progress on aspects of your teaching that that require more work (**Chapters 1 and 4**).

Total: -- / 15