INTEG 375 | Syllabus

Course ID: 013044

Hands-on Sustainability

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Course Essentials

Calendar Description: Special Topics in Knowledge Integration
From time to time courses of special study may be added to the program at the third-year level. Students wishing to take such courses should consult the Department's Undergraduate Officer. Prereq: Level at least 2A

Course Overview
Although the INTEG 375 designation is listed as a lecture (LEC), it can take many forms depending on the specific offering’s content and instructor. This offering of INTEG 375, Hands-on Sustainability, presents a real-world project course to rescue objects from the waste stream, determine why they were discarded, suggest how to refurbish them, and propose how to put them into the hands of those who can use them. It will contain elements of lecture (LEC), seminar (SEM), discussion (DIS), studio (STU), and workshop (WSP).

Small groups will work together to learn how to repair and repurpose everyday objects diverted from the landfill. Discussions and activities will involve sustainability & social good, including diagnostic skills, hand tools, 3D modeling, adhesives & fasteners.

Meet Time
Tuesdays & Thursdays, 10:00am – 11:20am, EV2 2069

Instructor
Paul McKone, EV1-209, pdmckone@uwaterloo.ca

Office Hour
Tuesdays, 11:30am – 12:20pm, EV1-209 (immediately following class)

Required Text
There is no required text for this course, but each student should have an Observation Journal/Sketchbook of their choice, for use in-class, and access to a Camera/Smartphone for recording/uploading phases of rescue/repair/repurpose/reporting.

Websites/Apps
Learn learn.uwaterloo.ca
Google Slides docs.google.com/presentation
Instructables www.instructables.com
www.instructables.com/class/How-to-Write-an-Instructable-Class/
www.instructables.com/account/register/

Approximate Costs
Students may need/want to purchase specialized supplies to complete the projects they choose to undertake.

Use of Google/Instructables
Students are expected to prepare Google Slides and an Instructable as part of this course. If students do not wish to create accounts to use these platforms, alternate arrangements will be made for their access.

1 Email must come from your @uwaterloo.ca address, or via LEARN, and contain INTEG 375 in the subject line.
The general shape of the term
Because this course has never been offered before, and because I want it to be all it can be, without limiting it to just my ideas, I expect the first half will be about thinking – problem-finding, needs analysing, technique exploring – and the second half about doing – rescuing, repairing, repurposing, reporting. Ultimately, the course will be a reflection of all of its participanta.

Tentative schedule of classes

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>In-class Activity</th>
<th>Read/Prepare (for engagement / collaboration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thu, 6 Sep</td>
<td>Syllabus &amp; Assignment Review</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>What is this course about?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Stuff We Throw Away</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tue, 11 Sep</td>
<td>D1: Who am I as an Agent of Change?</td>
<td>Reflect on your goals and abilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Presentations)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Thu, 13 Sep</td>
<td>Why fix things? What do we need to know?</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Tue, 18 Sep</td>
<td>How's it put together? How does this thing work?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Debugging by parts</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Thu, 20 Sep</td>
<td>D2: Waste Stream Survey -- What &amp; Where (Presentations)</td>
<td>Prowling the streets on trash night.</td>
</tr>
<tr>
<td>6</td>
<td>Tue, 25 Sep</td>
<td>Basics of Circuits -- Wiring a lamp, soldering</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Thu, 27 Sep</td>
<td>Glues, Screws, and Auto Adhesives</td>
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<tr>
<td>8</td>
<td>Tue, 2 Oct</td>
<td>TBD</td>
<td></td>
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<tr>
<td>-</td>
<td>Oct 8-10</td>
<td>Thanksgiving, Fall Reading Break (No classes held)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Thu, 11 Oct</td>
<td>Repair Cafes -- beyond the classroom</td>
<td>Reminder: this is a Tuesday schedule.</td>
</tr>
<tr>
<td>11</td>
<td>Tue, 16 Oct</td>
<td>discussion, in-class collaborative work on projects</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Thu, 18 Oct</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Tue, 23 Oct</td>
<td>discussion, in-class collaborative work on projects</td>
<td></td>
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<tr>
<td>14</td>
<td>Thu, 25 Oct</td>
<td>TBD</td>
<td></td>
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<tr>
<td>15</td>
<td>Tue, 30 Oct</td>
<td>discussion, in-class collaborative work on projects</td>
<td></td>
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<tr>
<td>Oct</td>
<td>16 Thu, 1 Nov</td>
<td>TBD</td>
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<tr>
<td>17 Tue, 6 Nov</td>
<td>discussion, in-class collaborative work on projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Thu, 8 Nov</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Tue, 13 Nov</td>
<td>discussion, in-class collaborative work on projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Thu, 15 Nov</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 Tue, 20 Nov</td>
<td>discussion, in-class collaborative work on projects</td>
<td></td>
<td></td>
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<tr>
<td>22 Thu, 22 Nov</td>
<td>D4: In-class review of another's Instructable</td>
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<tr>
<td>23 Tue, 27 Nov</td>
<td>D4: Documenting the Experience -- Creating an Instructable (Presentations)</td>
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<td></td>
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<tr>
<td>24 Thu, 29 Nov</td>
<td>Reflect on experience: What we did and where it's going</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Assignment Due Dates and Deliverables

<table>
<thead>
<tr>
<th>Intended Learning Outcomes</th>
<th>Assignment/Deliverable</th>
<th>Set</th>
<th>Due</th>
<th>% of Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
<td>Baseline (See below)</td>
<td>-</td>
<td>-</td>
<td>32%</td>
</tr>
<tr>
<td>Cr, Co</td>
<td>Attendance (See below)</td>
<td>BOT</td>
<td>EOT</td>
<td>24%</td>
</tr>
<tr>
<td>Re</td>
<td>D1: Who am I as an agent of change? In-class presentation Provide link for Slides/notes, on Learn</td>
<td>Sep 6</td>
<td>Sep 11 in-class 11:59pm</td>
<td>8%</td>
</tr>
<tr>
<td>Ob, Co, Pr</td>
<td>D2: Waste Stream Survey -- What &amp; Where In-class presentation Provide link for Slides/notes, on Learn</td>
<td>Sep 11</td>
<td>Sep 20 in-class 11:59pm</td>
<td>8%</td>
</tr>
<tr>
<td>Ob, Dt, Co, Pr</td>
<td>D3: User Needs Survey -- Who, What &amp; Why In-class presentation Provide link for Slides/notes, on Learn</td>
<td>Sep 25</td>
<td>Oct 4 in-class 11:59pm</td>
<td>8%</td>
</tr>
<tr>
<td>Ob, Dt, Cr, Co, Pr, Re</td>
<td>D4: Documenting the Experience -- Creating an Instructable In-class presentation Provide link for Instructable, on Learn</td>
<td>BOT</td>
<td>Nov 27 in-class 11:59pm</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Course Evaluation**

http://evaluate.uwaterloo.ca
Intended Learning Outcomes

The learning outcomes of INTEG 375 fall into these broad categories:

- **Ob: Observation** – record and share detailed observations of the world around you, to identify what is and why, and how you might be an agent of change;
- **Dt: Design thinking** – analyse conditions and opportunities, identify stakeholders, criteria, and constraints; make choices; evaluate results;
- **Cr: Creativity** – develop ideas to move from what “is” to multiples of what “might be;” generate standard and novel solutions to identified problems;
- **Co: Collaboration** – collaborate with others to develop your (and their) diversity of skills and interests; complete multiple projects to your own and others’ satisfaction;
- **Pr: Presentation** – present ideas, findings, and feedback with your collaborators, to your classmates
- **Re: Reflection** – look back at what you’ve achieved, where you’ve failed, how you’ve learned from that, and what you could try next time.

I’d like to see everyone in this course emerge with a better understanding of how things work, why things break, how things might be rescued/repaired/repurposed, and how those things can be put into the hand of those who could use them.

Course Requirements, Expectations, and Standards

The most important outcome of this course is you. At the end of a course you should be a changed person: more skilled, more knowledgeable, more resilient, more prepared.

The marks do not matter, except as a means of recording the effort that went into the work. The work does not matter, except as a method of helping you to become the new, improved version of yourself that results from taking the course.

We are here to help you become that better person. When we talk about mental health, academic integrity, and the host of University services available to help you succeed, we are actually talking about the importance of you, and the person you have the choice, the opportunity – and the responsibility – of becoming.

Baseline and Attendance

This course encourages creativity and a willingness to learn from failure.

Our goal is to make it safe to fail (and learn) without risking your academic standing.

If this were a letter-grade course, it would be graded from an A+ to an F-, from 95% down to 32%. *(https://uwaterloo.ca/registrar/transcripts/transcript-legend)*

Under a letter-grade system, the worst mark you could achieve would be the equivalent of 32%. Using this as a basis, we start with 32% as a baseline: you can earn no less than 32%. Building on that we add up to 1% for each of the 24 sessions you attend*, and distribute the remaining 44% across the deliverables.
This means that if you actively attend* every class, and do nothing else, you will not fail. (And provided you do all right on the assignments and deliverables, you’ll come out fine.)

N.B. *Attendance means more than being "physically present." It means being mentally present, and actively engaged. I keep attendance using a scheme of Present2, Late3, Excused4, Unengaged5, Absent6, where it’s better to be present (and engaged) than to be late, better to be late than excused, etc.

Note the definitions below, attending, particularly, to definitions 1, 2, 3, and 4 (with added emphasis):

<table>
<thead>
<tr>
<th>attend</th>
</tr>
</thead>
<tbody>
<tr>
<td>verb</td>
</tr>
<tr>
<td>1 they attended a carol service: be present at, sit in on, take part in; appear at, present oneself at, turn up at, visit, go to; informal show up at, show one’s face at. ANTONYMS miss.</td>
</tr>
<tr>
<td>2 he had not attended to the regulations: pay attention to, pay heed to, be attentive to, listen to; concentrate on, take note of, bear in mind, take into consideration, heed, observe, mark. ANTONYMS disregard, ignore.</td>
</tr>
<tr>
<td>3 the wounded were attended to nearby: care for, look after, minister to, see to; tend (to), treat, nurse, help, aid, assist, succor; informal doctor.</td>
</tr>
<tr>
<td>4 he attended to the boy’s education: deal with, see to, manage, organize, sort out, handle, take care of, take charge of, take in hand, tackle. ANTONYMS neglect.</td>
</tr>
<tr>
<td>5 the princess was attended by an usher: escort, accompany, chaperone, squire, guide, lead, conduct, usher, shepherd; assist, help, serve, wait on.</td>
</tr>
<tr>
<td>6 her weakness was attended with a fever: be accompanied by, occur with, coexist with, be associated with, connected with, be linked with; be produced by, originate from/in, stem from, result from, arise from.</td>
</tr>
</tbody>
</table>

Of course, if you’re hoping to get the most out of this course, you should plan to “show up with your skates on.” Make observations; absorb the readings; reflect on your experiences – and be prepared for thoughtful, relevant, and respectful contributions to class discussions and small-group activities.

“"If you want to get in the game, show up with your skates on." – James Alan Gardner

“A lot of what you learn in Design School is how to be actively interested in things.” – Mitch Goldstein

"Progress is impossible without change, and those who cannot change their minds cannot change anything." – George Bernard Shaw

Small-group projects & whole-group presentations

Working together in pairs or trios helps us solve problems and learn from one another. Practising effective collaboration, cooperation and coordination will contribute to a successful course.

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2 Present – physically here, mentally alert, actively engaged, and ready to interact with others
3 Late – more than a few minutes past the start of class. If we’re underway when you arrive, you’re late
4 Excused – you’ve let me know ahead of time that you will not be present
5 Unengaged – present in body, but absent in alertness, engagement, or intent
6 Absent – away without any advance notice
Individual vs. Group Work
Discussing assignments can improve your understanding and learning, however, you must still produce original work from individual effort, maintaining your academic integrity. A simple trick to avoid copying and other academic offenses: take a one-hour break after your discussions, before writing up the idea. The ideas will come out in your own words, ensuring that you have integrated them – acquired new knowledge – rather than just reproducing the discussion.

Assignment submission
The assignments for this course all have a dual due date: an in-class presentation, followed by an electronic submission (by 11:59pm that same day) to a dropbox on Learn.

Late submissions
In-class presentations cannot be late; the submit-by-midnight deadline allows you to make alterations in your submission based on feedback received in-class. Submission deadlines can always be extended, within reason.

Plagiarism
It is expected that all students will, in all that they do, maintain standards of attribution that recognize the work and contributions of others. In particular, it is expected that you will cite your sources in your written work in a consistent, standard format. There’s nothing wrong with building on the work of others, provided you refrain from plagiarism.

If you are uncertain what constitutes plagiarism, refer to the links in the section on Academic Integrity below, and to this resource put together by the Faculty of Arts: https://uwaterloo.ca/arts/current-undergraduates/student-support/ethical-behavior

LEARN
Users can login to LEARN via: http://learn.uwaterloo.ca. Use your WatIAM/Quest username and password. For help, see: www.uwaterloo.ca/learn-help/

University policies and services

Academic integrity
In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check the Office of Academic Integrity for more information.]

Grievance
A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.
Discipline
A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. [Check the Office of Academic Integrity for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline. For typical penalties, check Guidelines for the Assessment of Penalties.

Appeals
A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72, Student Appeals.

Note for students with disabilities
AccessAbility Services, located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Turnitin.com
Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course. It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.

Intellectual Property
Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask

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the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

**Mental Health**
The University of Waterloo, the Faculty of Environment and our Departments consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges - physical and/or emotional. Please note that help is available. Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services [http://www.uwaterloo.ca/counselling-services](http://www.uwaterloo.ca/counselling-services) is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

**Religious Observances**
Student needs to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

**Unclaimed assignments**
Unclaimed assignments will be retained until one month after term grades become official in Quest. After that time, they will be destroyed in compliance with UW's confidential shredding procedures: [https://uwaterloo.ca/central-stores/confidential-shredding](https://uwaterloo.ca/central-stores/confidential-shredding).

**Communications with Instructor and Teaching Assistants**
All communication with students must be through either the student’s University of Waterloo email account or via Learn. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

**Research Ethics**
The University of Waterloo requires all research conducted by its students, staff, and faculty which involves humans as participants to undergo prior ethics review and clearance through the Director, Office of Human Research and Animal Care (Office). The ethics review and clearance processes are intended to ensure that projects comply with the Office’s Guidelines for Research with Human Participants (Guidelines) as well as those of provincial and federal agencies, and that the safety, rights and welfare of participants are adequately protected. The Guidelines inform researchers about ethical issues and procedures which are of concern when conducting research with humans (e.g. confidentiality, risks and benefits, informed consent process, etc.). If the development of your research proposal consists of research that involves humans as participants, the please contact the course instructor for guidance and see [https://uwaterloo.ca/research/office-research-ethics](https://uwaterloo.ca/research/office-research-ethics).
Recording lectures
Use of recording devices during lectures is only allowed with explicit permission of the instructor of the course.
- If allowed, video recordings may only include images of the instructor and not fellow classmates.
- Posting of videos or links to the video to any website, including but not limited to social media sites such as: facebook, twitter, etc., is strictly prohibited.

Co-op interviews and class attendance
Co-op students are encouraged to try and choose interview time slots that result in the least amount of disruption to class schedules. When this is challenging, or not possible, a student may miss a portion of a class meeting for an interview. Instructors are asked for leniency in these situations; but, a co-op interview does not relieve the student of any requirements associated with that class meeting.

When a co-op interview conflicts with an in-class evaluation mechanism (e.g., test, quiz, presentation, critique), class attendance takes precedence and the onus is on the student to reschedule the interview. CECA provides an interview conflict procedure to manage these situations.

Students will be required to provide copies of their interview schedules (they may be printed from WaterlooWorks) should there be a need to verify class absence due to co-op interviews.