Course Syllabus
CMPT 113.3: Computing Using Excel and VBA

Course Description
An introduction to the fundamentals of programming using the Visual Basic for Applications (VBA) language in Excel. An emphasis is placed on learning many important concepts used to create useful computer programs in Excel. Examples of some concepts include arrays, procedures, and functions. This course is mostly intended for engineering students, and therefore, some introductory numerical methods and engineering applications are presented. Some graphical user interface (GUI) design concepts are also introduced.

Prerequisite(s): Mathematics B30 or Foundations of Mathematics 30 or Pre-Calculus 30

Class Time and Location: T,R 10:00am–11:20am, PHYSIC 103
Tutorial Location: THORV S320
Website: http://moodle.cs.usask.ca/

Instructor Information

Instructor: Jason Boisvert
Contact: Email: jjb701@mail.usask.ca,
Consulting: Location: Third floor Spinks, Undergraduate Computer Science Lab,
Hours: Wednesday/Friday 3:00pm–4:30pm

Course Learning Outcome
By the end of this course, students should be able to complete the following tasks:

• Students will complete a variety of tasks using Microsoft Excel.

• Given a problem, students will be able to create a set of instructions in plain language, that when followed will result in a correct solution to the problem.

• Students will design computer programs using VBA in Excel to execute a set of instructions to solve a given problem.

• Given a sample of VBA code, students will be able to correctly anticipate the outcome of the code or identify incorrect VBA syntax.

Student Evaluation

Grading Scheme

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Equally-Weighted Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>Midterm Exam (February 12 in class)</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
</table>

Criteria That Must Be Met To Pass

Students must write the final exam in order to pass the course. If a student does not write the final exam, the student will receive a total grade of at most 49%.
Attendance Expectation

- Attend every class and be prepared to participate. There is no penalty for poor attendance. However, attendance is an important factor in successfully completing the course. Students will be expected to understand concepts introduced and discussed in class. Students will also be asked to participate in class activities using many of the course concepts. These activities are design to help improve the understanding of important course material.

- Attend all tutorial sessions. These sessions provide students an opportunity to practice concepts learnt in class. During the session, tutorial instructors will review course concepts and answer student questions. Students will also be given an opportunity to work on tutorial exercises and assignments. Due to time constraints, it is possible that some concepts will be introduced in tutorial sessions and not during lectures. Material introduced in tutorial sessions may be the subject of assignment questions or tested on either the mid-term or final examination.

Final Exam Scheduling

The Registrar schedules all final examinations, including deferred and supplemental examinations. Students are advised not to make travel arrangements for the exam period until the official exam schedule has been posted.

Note: All students must be properly registered in order to attend lectures and receive credit for this course.

Textbook Information

Required Text


Lecture Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
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</thead>
<tbody>
<tr>
<td>Jan 05–09</td>
<td>• Course outline and introduction&lt;br&gt;• Overview of Excel, Excel functions, and Excel macros&lt;br&gt;• Excel file types</td>
</tr>
<tr>
<td>Jan 12–16</td>
<td>• Elements of pseudo code and flowcharts&lt;br&gt;• Solving problems with pseudo code and flowcharts</td>
</tr>
<tr>
<td>Jan 19–23</td>
<td>• VBA Editor&lt;br&gt;• Components of a VBA program&lt;br&gt;• Using objects in VBA&lt;br&gt;• Variables and expressions&lt;br&gt;• Input/output</td>
</tr>
</tbody>
</table>
| Jan 26–Jan 30 | • String operations  
• Conditional statements  
• If statements  
• Loops |
|--------------------|
| Feb 2–Feb 6 | • Arrays, matrices, multi-dimensional arrays  
• Testing and debugging |
| Feb 9–Feb 13 | • Review (if time permits)  
• **Midterm on February 12 in class** |
| Feb 16–Feb 20 | • Reading Week |
| Feb 23–Feb 27 | • Sub Procedures  
• Functions  
• Variable Scope |
| Mar 2–Mar 6 | • Recursion  
• User-defined types in VBA |
| Mar 9–Mar 13 | • File input and output  
• Sort methods  
• Search methods |
| Mar 16–Mar 20 | • Some numerical methods in Excel |
| Mar 23–Mar 27 | • Plots and charts of data |
| Mar 30–Apr 3 | • User forms in Excel (if time permits)  
• Active X controls in Excel (if time permits) |
| Apr 6–Apr 10 | • Review for final exam (if time permits) |

A reading list for topics can be found on the course website.
Course Overview

Assignments

Assignments and their respective due dates will be posted on the course web site. If an assignment is canceled, the weights of the remaining assignments will be adjusted so that they equal the percentage of the final grade listed in "Grading Scheme".

Policies

Late Assignments

Late assignments will not be accepted. Students should ensure all assignments are submitted by the due date posted for the assignments.

Missed Assignments

Assignment extensions will only be granted for medical reasons or exceptional circumstances. Students should be prepared to show evidence for reason given. Students should contact the instructor for an extension before the assignment due date. Requests for extensions after the assignment due date will not be considered.

Missed Examinations

1. "Students who have missed an exam or assignment must contact their instructor as soon as possible. Arrangements to make up the exam may be arranged with the instructor. Missed exams throughout the year are left up to the discretion of the instructor if a student may make up the exam or write at a different time. If a student knows prior to the exam that she/he will not be able to attend, they should let the instructor know before the exam."

2. "Final exams - a student who is absent from a final examination through no fault of his or her own, for medical or other valid reasons, may apply to the College of Arts and Science Dean’s office. The application must be made within three days of the missed examination along with supporting documentary evidence. Deferred exams are written during the February mid-term break for Term 1 courses and in early June for Term 2 and full year courses."


Incomplete Course Work and Final Grades

When a student has not completed the required course work, which includes any assignment or examination including the final examination, by the time of submission of the final grades, they may be granted an extension to permit completion of an assignment, or granted a deferred examination in the case of absence from a final examination. Extensions for the completion of assignments must be approved by the Department Head, or Dean in non-departmentalized Colleges, and may exceed thirty days only in unusual circumstances. The student must apply to the instructor for such an extension and furnish satisfactory reasons for the deficiency. Deferred final examinations are granted as per College policy.

In the interim, the instructor will submit a computed percentile grade for the course which factors in the incomplete course work as a zero, along with a grade comment of INF (Incomplete Failure) if a failing grade. In the case where the instructor has indicated in the course outline that failure to complete the required course work will result in failure in the course, and the student has a computed passing percentile grade, a final grade of 49% will be submitted along with a grade comment of INF (Incomplete Failure).

If an extension is granted and the required assignment is submitted within the allotted time, or if a deferred examination is granted and written in the case of absence from the final examination, the instructor will submit a revised computed final percentage grade. The grade change will replace the previous grade and any grade comment of INF (Incomplete Failure) will be removed. For provisions governing examinations and grading, students are referred to the University Council Regulations on Examinations subsection of the Calendar.

(2011 University of Saskatchewan Calendar/Academic Courses Policy)
Academic Honesty

The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals subsection of the University Secretary Website and avoid any behaviour that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.


Academic honesty is also defined and described in the Department of Computer Science Statement on Academic Honesty: http://www.cs.usask.ca/undergrad/honesty.php.

For more information on what academic integrity means for students see the Student Conduct & Appeals subsection of the University Secretary Website at: http://www.usask.ca/university_secretary/pdf/dishonesty_info_sheet.pdf

Examinations with Disability Services for Students (DSS)

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Disability Services for Students (DSS) if they have not already done so. Students who suspect they may have disabilities should contact DSS for advice and referrals. In order to access DSS programs and supports, students must follow DSS policy and procedures. For more information, check http://www.students.usask.ca/disability/, or contact DSS at 966-7273 or dss@usask.ca.

Students registered with DSS may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through DSS by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by DSS.