INFOST 350: Introduction to Application Development (3 Credits)  
Fall 2019 SYLLABUS

Instructor and Email: Anthony Jesmok ajjesmok@uwm.edu (pronouns: he/him/his)
Office Location and Hours: Off-Campus, By appointment at area coffee shops or online chat.
Meeting Times & Location: NWQ 1990, 5:30 to 8:10 PM Tuesdays, 09/03 to 12/12

CATALOG DESCRIPTION
Introduction to the fundamental concepts of application development. Basic application development concepts will be explained, analyzed, and practiced.

EXPANDED COURSE DESCRIPTION
This course acquaints students with the core concepts of software development from an Information Studies perspective. Students will learn how to develop basic software using the Python programming language that can be applied to further coursework and careers in application development and information technology.

PREREQUISITES
C- grade (or higher) or concurrent enrollment in INFOST 110, or instructor consent. Students should have basic computer literacy, such as typing, accessing the internet, and troubleshooting skills.

LEARNING OBJECTIVES
Upon completion of the course, students will be able to:
1. Explain fundamental programming concepts including variables, logical statements, functions, operations, and usage of various data types.
2. Create working application logic to conduct basic tasks using a programming language.
3. Verbally discuss and explain application logic and programming language usage.
4. Apply computational thinking principles to analyze and solve problems.

METHODS Lecture, hands-on assignments, quizzes, in-class activities, flipped classroom.

EXPECTED TIME REQUIREMENT
This course requires a weekly time commitment. General university guidelines indicate that a 3-credit course requires a minimum 144-hour time commitment over the semester. This time commitment represents a minimum of 9-10 hours of work per week per course. 3 hours are for the in-person meeting, so 6 or more hours should be devoted to working on course modules.

REQUIRED MATERIALS AND TECHNOLOGY REQUIREMENTS
There is no required textbook for this course. We will use freely-available online materials when needed. With that being said, some students appreciate an instructor-recommended text to go along with the course. This book is recommended. A copy of this book (first edition) is also available for two-hour checkout times at the UWM Library course reserves, ask the front desk for more details.

**Computer Requirement:** Students must be able to access a computer with internet outside of the classroom for assignments. The NWQ has computer lounges, but a personal computer is strongly recommended.

For non-Canvas technical assistance, contact SOIS Tech: (414) 229-4707, soistech@uwm.edu, http://uwm.edu/informationstudies/resources/it/.
For Canvas assistance, you can contact Canvas 24/7: https://uwm.edu/canvas/students/.

**ACADEMIC HONESTY**
Helping each other is encouraged, but each student’s work must ultimately be their own. The instructor runs automated and random manual checks on assignments for signs of academic dishonesty. There is no collaboration allowed on quizzes or the final project. Academic misconduct may result in a lowered grade, no credit for an assignment, or removal from the course. Serious incidents may be handled at the University level with consequences including suspension, probation, or expulsion. The Associate Dean of SOIS is currently responsible for managing and investigating academic honesty escalated to the University level.

**ATTENDANCE**
For one to succeed and pass this course, consistent practice and attendance are crucial. With this being said, circumstances may arise where a student misses class. Students are allowed one unexcused absence. An excused absence needs to be cleared with the instructor via email. The instructor reserves the right to refuse a request for an excused absence. Documentation is required for excused absences if the situation requires. Each absence beyond those excused and the one unexcused will result in points lost in the “Attendance” section of grading. At the end of class, a word will be put on the board that you will enter into Canvas for attendance points. Please do not leave class until the points for the week have posted to your grade book.

Please make your best effort to arrive to class on time. Circumstances may occasionally prohibit this, but being tardy can be inconsiderate and disruptive. If students begin showing chronic tardiness, an additional attendance check, with points, may be implemented at the beginning of class.

**EMAIL POLICY**
Please feel free to email questions regarding assignments, to request further clarification of an issue, or to request an excused absence. You do not need to go into deep details, but communication is important. However, do not abuse email. If you have other means of obtaining what you missed (like Canvas) try that option. Emails should use proper language and respect.

**ASSIGNMENT “RE-DOS”**
A student who earns less than 76% on an assignment has the opportunity to “re-do” the assignment and improve it. Students may re-do their assignments from the day they receive their initial grade until 11:59 PM CST one week later. If the original submission was late and unexcused, no re-do will be possible. If the original submission did not show an attempt to complete all of the requirements of the assignment, no re-do will be possible. Upon submitting a re-do, the student must email the instructor with the assignment name and indicating a re-do was submitted. The student will be able to redeem up to half the original points lost. For example, a student earning a 75% originally will not be able to raise their grade past 87.5%. This policy exists to give students who made decent attempts at the original assignment to learn and improve from their mistakes. The instructor may deny a re-do at their discretion.

**STUDENT LIFE RESOURCES**
**Resource Centers:** UWM provides assistance for students in the form of resource centers. These are offered through the Division of Student Affairs and you can explore them online at https://uwm.edu/studentaffairs/.
Resources include the LGBT+ Resource Center, Women’s Resource Center, and various cultural centers.

**Mental Health:** Students with mental health concerns are encouraged to contact Norris Health Center University Counseling Services. Information is available at https://uwm.edu/norris/counseling/ and sessions are
available at no cost to on-campus students. The instructor is willing to listen and provide guidance towards resources. For emergencies, call 911 or the UWM Police emergency line at 414-229-9911. The National Suicide Prevention Hotline is 1-800-273-8255 or online chat is available at [http://chat.suicidepreventionlifeline.org](http://chat.suicidepreventionlifeline.org).

**Title IX and Ex. Order 54:** This instructor is a mandated reporter under Title IX of the Civil Rights Act and must report any instance of discrimination or unfair treatment, such as harassment, violence, and exploitation. If a person is uncomfortable reporting these to the instructor, and thus to the Title IX Coordinator, referrals to confidential resources can be made upon request. You can learn more about Title IX at [https://uwm.edu/titleix/](https://uwm.edu/titleix/). In addition, this instructor is mandated by law to report any instances of suspected child abuse or neglect immediately under Wisconsin Executive Order 54.

**UWM AND SCHOOL OF INFORMATION STUDIES ACADEMIC POLICIES**
Students should be aware of all University policies relevant to all courses on campus. This includes military deployment, students needing accommodations, discrimination, religious observances, and others. You can view these policies online at [https://uwm.edu/secu/syllabus-links/](https://uwm.edu/secu/syllabus-links/). In addition, resources and policies from the School of Information Studies are available at [https://uwm.edu/informationstudies/resources/faqs/](https://uwm.edu/informationstudies/resources/faqs/).

Students may also want to explore One-Stop Student Services at [https://uwm.edu/onestop/](https://uwm.edu/onestop/) and graduate students should also explore the Master’s Toolbox at [https://uwm.edu/graduateschool/masters-toolbox/](https://uwm.edu/graduateschool/masters-toolbox/).

**GENERAL EXPECTATION OF RESPECT**
It should go without saying that the expectation is that everyone in this course treats everyone else (instructors, other students, guest speakers), ourselves (motivation, work ethic, etc.), and the items around us (equipment, rooms, etc.) with the utmost respect. This classroom is meant to be a casual and friendly environment - let’s keep it that way by remembering the concept of respect as we work together.
INFOST 350 FLIPPED CLASSROOM MODEL

WHAT IS A FLIPPED CLASSROOM?
In a traditional classroom, students attend classes where they are focused on an instructor and receive materials in the form of a lecture and/or activity. After class, students complete assignments that apply the skills learned in the classroom.

In a flipped classroom, students watch lectures and complete lesson-related activities online, known as "modules". During the scheduled class period, students complete assignments relating to the course material covered in the virtual lesson.

WHY A FLIPPED CLASSROOM FOR THIS COURSE?
In teaching INFOST 350, it has been noted that students in the course come from a wide variety of backgrounds. A portion of students may already know the Python programming language, while others may only be starting to become familiar with information technology in general - and numerous levels of skills in between. With a traditional classroom model, many students felt the course was either too fast-paced or slow-paced and thus did not feel they received the full value of the course. The flipped classroom model employed by INFOST 350 has these benefits.

1. **More power to the student.** Students may proceed through the course at their own pace, granting they meet some general deadlines. This means students with advanced knowledge, or who learn faster, are not stagnated from proceeding further and taking on more advanced lessons. This also means less-experienced students can take their time without feeling intimidated nor rushed.

2. **Enhanced lectures.** A traditional lecture can only be given once and is not generally recorded via video. Students may forget concepts as a result, and have to ask questions or reach out for help. Lectures in a flipped classroom are recorded, so students may revisit them at any time.

3. **More personalized in-classroom experience.** Students in the classroom proceed with their assignments while having access to the instructor directly for 1:1 assistance. With less time on lecturing, the instructor is more widely available to assist and students can spend more time working. It is important to note that in-class attendance is still required per the attendance policy, as some activities are performed in-classroom and instructor check-ins are done in-person.

4. **A similar final product.** All students will still complete a final project at the end of their class. These projects are widely flexible and are mostly student-driven. This will give the student a chance to show what they have learned to their peers.

HOW IS THIS COURSE GRADED?
As noted, while each student directs their own pace and learning journey based on the available materials, there are common goals for the entire class and items that must be completed by everyone. These make up the student’s grade for the course. Graded items are broken down into these categories and letter grades.

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Quizzes</th>
<th>Attendance</th>
<th>Final Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graded assignments that</td>
<td>Multiple choice quizzes at</td>
<td>Attending class in-person</td>
<td>A final program presented during the</td>
</tr>
<tr>
<td>correspond with each</td>
<td>the end of each module</td>
<td>and checking in via Canvas.</td>
<td>last two sessions.</td>
</tr>
<tr>
<td>module.</td>
<td>lecture video.</td>
<td></td>
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<tr>
<td>40% of Final Grade</td>
<td>15% of Final Grade</td>
<td>10% of Final Grade</td>
<td>35% of Final Grade</td>
</tr>
</tbody>
</table>

96-100            A            87-90.99   B+            80-83.99   B-            74-76.99   C            67-69.99   D+            60-63.99   D-  
90-95.99           A-           84-86.99   B            77-79.99   C+            70-73.99   C-            64-66.99   D            < 60       F  

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COURSE MODULES
This course is divided into “modules”. Each module consists of video lectures, activities (such as programming drills), and a graded assignment via Canvas.

IN-PERSON INTRODUCTION LESSON SEPTEMBER 3RD

CORE MODULES | COMPLETE ALL MODULES BY END OF CLASS OCTOBER 22ND

<table>
<thead>
<tr>
<th>Module #</th>
<th>Module Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Navigating Your Tools</td>
</tr>
<tr>
<td>2</td>
<td>Computational Thinking Fundamentals</td>
</tr>
<tr>
<td>3</td>
<td>Basic Data Types and Manipulation</td>
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<tr>
<td>4</td>
<td>Complex Data Types and Manipulation</td>
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<tr>
<td>5</td>
<td>Logical Programming</td>
</tr>
<tr>
<td>6</td>
<td>Code Compartmentalization and Exceptions</td>
</tr>
<tr>
<td>7</td>
<td>Putting It All Together: Basic Concepts</td>
</tr>
<tr>
<td>8</td>
<td>Retrieving External Data via APIs</td>
</tr>
<tr>
<td>9</td>
<td>Software Careers and Resume Skills</td>
</tr>
</tbody>
</table>

ADVANCED MODULES | COMPLETE 6 MODULES OF YOUR CHOICE BEFORE CLASS NOVEMBER 19TH

<table>
<thead>
<tr>
<th>Module #</th>
<th>Module Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Twilio Text Messaging</td>
</tr>
<tr>
<td>11.1</td>
<td>PyGame Level 1</td>
</tr>
<tr>
<td>11.2</td>
<td>PyGame Level 2</td>
</tr>
<tr>
<td>12</td>
<td>Time-Based Applications (Clocks, Alarms, Timers)</td>
</tr>
<tr>
<td>13</td>
<td>Natural Language Processing</td>
</tr>
<tr>
<td>14</td>
<td>Object-Oriented Programming</td>
</tr>
<tr>
<td>15</td>
<td>Basic Machine Learning</td>
</tr>
<tr>
<td>16</td>
<td>Source Version Control</td>
</tr>
<tr>
<td>17</td>
<td>Professional Interactive Development Environment (IDE), Visual Studio Code</td>
</tr>
</tbody>
</table>

FINAL PROJECT WORK SESSIONS NOVEMBER 19TH AND 26TH, PRESENTATIONS DECEMBER 3RD AND 10TH

NO MEETING FINAL EXAM WEEK