**Course Syllabus**

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| **CNU International Summer Session** |

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| **Course Title** | | | **Data Analysis and Its Applications:**  **Spreadsheet Modeling with Microsoft Excel** | | | | | | | | | | | | | | | | | | |
| **Course Type** | | | In-class | | | | | | | | **Credits**  **(hours)** | | | 3 | | | | | | | |
| **Department** | | | Industrial Engineering | | | | | | | | **Professor** | | | Behnam Tavakkol | | | | | | | |
| **Classification**  **(year in school)** | | | 2nd year and beyond  (open to all majors) | | | | | | | | **Course Code** | | | IDE2024 | | | | | | | |
| **Class room** | | | TBA | | | | | | | | **E-mail** | | | Behnam.tavakkol@stockton.edu | | | | | | | |
| **Prerequisite(s)** | | | None | | | | | | | | | | | | | | | | | | |
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| **Course objectives** | | | **Objective 1:** *Commitment to lifelong learning, to the exploration of new ideas outside one’s specialization, and to placing one’s own knowledge in the context of other disciplines and of society as a whole.*  **Objective 2:** *Ability to understand numerical data so as to be able to comprehend arguments and positions that depend on numbers and statistics.* | | | | | | | | | | | | | | | | | | |
| **Course Summary** | | | This course introduces spreadsheet concepts that are useful to students as users of information systems. The purpose of this course is to teach students: spreadsheet terminology and concepts; create formulas and functions; use formatting features; generate charts, graphs, and reports; use advanced features such as Data Table and Goal Seek; use data visualization techniques; and use statistical and mathematical formulas.  The purpose is to bring students up to speed with basic and many advanced techniques. At the end of this course, students will find themselves with wicked Excel skills! | | | | | | | | | | | | | | | | | | |
| **Teaching Methods** | | | **Teaching Methods** | | | | | | | | | | | | | | | | | | |
| Lecture | Presentation/Discussion | | | | Problem Based Learning | | | | Project Based Learning | Flipped Learning | | | Experiment/ Practices | | | | Others  (Describe) | |
| X |  | | | |  | | | | X |  | | |  | | | |  | |
| **Projects:** Each day, we will work on a hands-on project that must be completed in Microsoft Excel. Basically, the entire learning in the course is based on the projects. To complete the projects, students must follow my step-by-step instructions in the class. They will have a chance to use my help and/or their classmates’ help until they get everything correct. At the end of the class, they will submit their completed projects through the online course platform, CNU E-class. The main goal of the projects is for students to fully learn different Excel features and the other elements of the course, i.e., the midterm exam and the final exam will require a good understanding of the materials covered in the projects.  **Midterm Exam:** There will be a midterm exam almost half-way through the summer session. The format of the exam will be similar to the format of the hands-on project**s**, but students will not be able to use any assistance.  **Final Exam:** There will be a final exam at the last day of the summer session. The format of the exam will be similar to the format of the midterm exam. The final exam will be comprehensive and include all the materials covered in the class.  **Attendance:** Attendance will be checked every day and will be part of the total grade calculations. | | | | | | | | | | | | | | | | | | |
| **Grading** | | | Mid-Term | Final | | Individual Projects | | | Team Projects | | | Class participation | | | Attendance | | Others  (Describe) | | | | **Total** |
| **20%** | **25%** | | **50%** | | |  | | |  | | | **5%** | |  | | | |  |
| ※ Pursuant Section 28 of the Guidelines on Class Management, grading methods can be adjusted for the physically impaired.  ※ Under Section 29 of the University Regulations on Academic Affairs, a student automatically fails a course in case of failure to attend more than 3/4 classes. (More than four(4) times absence) | | | | | | | | | | | | | | | | | | |
| **Accommodations for Handicapped** | | | - Visually impaired: provision of course related materials in audio, note taking helper, permission to record the lecture  - Audibly impaired: provision of course related materials in visual, note taking helper, permission to have e-learning lectures in sign language or shorthand  - Physically or mentally challenged: provision of course related materials, note taking helper, permission to record the lecture   * Any other requests that are considered necessary: provision of assisted   ingress and egress to the classrooms and other supports | | | | | | | | | | | | | | | | | | |
| **Textbooks & References** | | | | | | | | | | | | | | | | | | | | | |
| Category | Title | | | | Author | | | | | | | Publisher | | | | | | | Year of publication | | |
| Main textbook | **GO! Microsoft 365: Excel 2021, 1st edition** | | | | Shelley Gaskin & Alicia Vargas | | | | | | | Pearson | | | | | | | 2022 | | |
| Others | Microsoft Excel (2016 or newer) | | | |  | | | | | | |  | | | | | | |  | | |
| Reference |  | | | | | | | | | | | | | | | | | | | | |
| **Daily Course Schedule** | | | | | | | | | | | | | | | |
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| **Day**  **(3hrs)** | **Lecture Topic** | **Hours per day** | **Method of Instruction** | **Class Materials & Assignments** |
| Tuesday, July 2nd | Course intro/syllabus; Creating a worksheet and charting data (Project 1A) | 3 | Lecture/Project-based learning | Project 1A |
| Thursday, July 4th | Creating a worksheet and charting data (Project 1B) | 3 | Lecture/Project-based learning | Project 1B |
| Friday, July 5th | Using functions, creating tables, and managing large workbooks (Project 2A) | 3 | Lecture/Project-based learning | Project 2A |
| Monday, July 8th | Using functions, creating tables, and managing large workbooks (Project 2  B) | 3 | Lecture/Project-based learning | Project 2B |
| Tuesday, July 9th | Analyzing data with pie charts, line charts, and what-if analysis tools (Project 3A and Project 3B) | 3 | Lecture/Project-based learning | Project 3A  Project 3B |
| Thursday, July 11th | Use Lookup and financial functions, define names, validate data and audit worksheets (Project 4A)  *Midterm Exam* | 3 | Lecture/Project-based learning | Project 4A  **Midterm Exam** |
| Friday, July 12th | Use Lookup and financial functions, define names, validate data and audit worksheets (Project 4B) | 3 | Lecture/Project-based learning | Project 4B |
| Monday, July 15th | Managing large workbooks and using advanced sorting and filtering (Project 5A) | 3 | Lecture/Project-based learning | Project 5A |
| Tuesday, July 16th | Managing large workbooks and using advanced sorting and filtering (Project 5B) | 3 | Lecture/Project-based learning | Project 5B |
| Thursday, July 18th | Creating charts, diagrams, and templates (Data visualization) -(Project 6A) | 3 | Lecture/Project-based learning | Project 6A |
| Friday, July 19th | Creating charts, diagrams, and templates (Data visualization) -(Project 6B) | 3 | Lecture/Project-based learning | Project 6B |
| Monday, July 22nd | Creating PivotTables and PivotCharts (Project 7A and Project 7B) | 3 | Lecture/Project-based learning | Project 7A  Project 7B |
| Tuesday, July 23rd | Using the Data Analysis, Solver, and Scenario Features, and Building Complex Formulas (Project 8A) | 3 | Lecture/Project-based learning | Project 8A |
| Thursday, July 25th | Using the Data Analysis, Solver, and Scenario Features, and Building Complex Formulas (Project 8B) | 3 | Lecture/Project-based learning | Project 8B |
| Friday, July 26th | Final Exam | 3 |  | **Final Exam** |

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| **References** |
| Please describe the daily course contents, teaching methods, assignments, and student evaluation methods. |