

**ASSESSMENT RESULTS:**

**ANALYTICAL THINKING SKILLS**

**INFORMATION TECHNOLOGY**

Prepared by the McCoy College Assurance of Learning Committee:

Course Coordinator Core Course

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The McCoy College of Business assesses two undergraduate competency goals on a rotating basis every academic year. This process results in the college assessing all six undergraduate competency goals every three years. This year the college assessed Competency Goal 2 & 3:

**Competency Goal 2: “Apply analytical thinking skills and use analytical tools to evaluate information, solve problems, and make sound decisions.”**

**Graduates should be able to carefully and logically analyze data, information, problems, and ideas from multiple perspectives. They may demonstrate these analytical thinking skills through their ability, in a variety of circumstances, to synthesize information and evaluate its logic, validity, and relevance; arrive at reasoned conclusions, make informed decisions, and solve challenging problems; and generate or explore new questions.**

 This goal was assessed in two courses:

 Introduction to Financial Accounting (ACC 2361)

 Business Finance (FIN 3312)

**Competency Goal 3: “Apply information technology skills to organizational problems and decisions.”**

**Graduates should be able to use information technology (IT) in their work environment and understand its impact in various organizational contexts and apply IT skills to analyze problems and make data-informed decisions.**

 This goal was assessed in two courses:

 Introduction to Microcomputer Applications (CIS 1323)

 Enterprise Information Technology and Business Intelligence (CIS 3380)

The process of assessment and the results for AY 2021-2022 are provided below.

***BBA Program Level Competency Goal 2:***

**Competency Goal 2 states:**

**“Apply analytical thinking skills and use analytical tools to evaluate information, solve problems, and make sound decisions.”**

**Graduates should be able to carefully and logically analyze data, information, problems, and ideas from multiple perspectives. They may demonstrate these analytical thinking skills through their ability, in a variety of circumstances, to synthesize information and evaluate its logic, validity, and relevance; arrive at reasoned conclusions, make informed decisions, and solve challenging problems; and generate or explore new questions.**

Two courses assessed this goal for the 2021-2022 academic year:

 Introduction to Financial Accounting (ACC 2361)

 Business Finance (FIN 3312)

The results from each course along with an analysis of the results by the instructors and plans for the coming year appears below. Following that will be the recommendations of the joint meeting of the Undergraduate Curriculum Committee and the Course Coordinators from each course.

**ACC 2361: Introduction to Financial Accounting Principles**

**Methods of Assessment:**

In ACC 2361 the assessment methods used are:

Results were measured by scoring the first 15 questions of a multiple-choice final exam. Assessment questions were selected from those labeled “analytical thinking” as defined by AACSB standards as indicated in the textbook publisher’s test bank. Scoring was accomplished using reports generated by Connect, McGraw Hill’s online textbook software in 2019-20 and 2020-21. In academic year 2021-22, scoring was accomplished using scantron answer sheets and reported generated by TEMC.

The following criteria were used to determine if students exceeded, met, or failed to meet expectations:

* Exceeded expectations = students who earned 90 percent or better
* Met expectations = students who earned between 70 and 90 percent
* Below expectations = students who earned below 70 percent

**Results:**

San Marcos Campus

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2021-22 | FALL (N) | FALL % | SPRING (N) | SPRING % | TOTAL |  TOTAL % |
| EXCEEDED | 64 | 14% | 43 | 11% | 107 | 13% |
| MET | 156 | 34% | 129 | 33% | 285 | 33% |
| **EXCEEDED AND MET** | **220** | **48%** | **172** | **43%** | **392** | **46%** |
| BELOW | 235 | 52% | 224 | 57% | 459 | 54% |
| TOTAL | 455 | 100% | 396 | 100% | 851 | 100% |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2020-21 | FALL (N) | FALL % | SPRING (N) | SPRING % | TOTAL |  TOTAL % |
| EXCEEDED | 39 | 12.5 | 60 | 12.9 | 99 | 13% |
| MET | 126 | 40.5 | 190 | 40.9 | 316 | 41% |
| **EXCEEDED AND MET** | **165** | **53** | **250** | **53.8** | **415** | **54%** |
| BELOW | 146 | 47 | 215 | 46.2 | 361 | 46% |
| TOTAL | 311 | 100 | 465 | 100 | 776 | 100% |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2019-20 | FALL (N) | FALL % | SPRING (N) | SPRING % | TOTAL |  TOTAL % |
| EXCEEDED | 88 | 16 | 121 | 20 | 209 | 18 |
| MET | 230 | 41 | 244 | 39 | 474 | 40 |
| **EXCEEDED AND MET** | **318** | **57** | **365** | **59** | **683** | **58** |
| BELOW | 242 | 43 | 251 | 41 | 493 | 42 |
| TOTAL | 560 | 100 | 616 | 100 | 1176 | 100 |

**Instructor Observations:**

In 2021-22 46% of all students scored 70% or higher on the course assessment.

These results have trended progressively downward since Spring 2021. All sections met Face-to-face in Spring 2022, but that semester reported the lowest assessment scores to date.

Results are significantly less than the prescribed goal of 65% of all students scoring 70% or above.

**Instructor Recommendations for Next Academic Year:**

In 2022-23, we plan to continue to hold students to the high standards set by our department. Less than 10% of our students are declared accounting majors. Most of our students continue to find this course challenging. Instructors observed decreased class attendance and student engagement in class and tutoring sessions often attributed to the learning gap associated with Covid-19.

Instructors will factor in class attendance to the course grade computation in Fall 2022. Peer tutoring sessions provided by the accounting department through AIS (Accounting Instructional Support) leaders will be encouraged by posting session times on Canvas calendars for all sessions

Our goal continues to be to provide challenging curriculum for accounting majors while providing a highly structured course to engage and encourage other majors to achieve.

**FIN 3312: Business Finance**

**Methods of Assessment:**

All sections of FIN 3312 used the same 20 multiple choice questions given as part of the final exam. Each section reported the number of students taking the exam and the number of students meeting the expectation of 70% (14 or more correct questions) and the number exceeding expectations by reaching 90% (18 or more correct questions).

The goal is that 70% of participating students will meet or exceed expectations.

**Results:**

Fall Semester (all sections taught at San Marcos campus, or online)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Fall 2021 | F-T-F |   | Hybrid |   | Online  |   | Hybrid/Online |
|   | # | % |   | # | % |   |  # | % |   |  # | % |
| # Exceeding | 23 | 16.3% |   | 45 | 18.2% |   | 22 | 21.3% |   | 67 | 19.0% |
|   |   |   |   |   |   |   |   |   |   |   |   |
| # Meeting  | 81 | 57.1% |   | 135 | 54.7% |   | 83 | 78.8% |   | 218 | 61.9% |
|   |   |   |   |   |   |   |   |   |   |   |   |
| Total # Students | 141 |   |   | 247 |   |   | 105 |   |   | 352 |   |

Spring Semester (all sections taught at San Marcos campus, or online)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Spring 2022 | F-T-F |   | Hybrid |   | Online |   | Hybrid/Online |
|   | # | % |   | # |   |   | # | % |   | # | % |
| # Exceeding | 11 | 7.9% |   | 16 | 7.7% |   | 21 | 13.7% |   | 37 | 10.2% |
|   |   |   |   |   |   |   |   |   |   |   |   |
| # Meeting  | 53 | 37.9% |   | 90 | 43.3% |   | 110 | 71.9% |   | 200 | 55.4% |
|   |   |   |   |   |   |   |   |   |   |   |   |
| Total # Students | 140 |   |   | 208 |   |   | 153 |   |   | 361 |   |

**Instructor Observations:**

Overall, the students in FIN 3312 did not meet the goal of 70% for the academic year. Only In the Online courses did the students achieve a success rate above 70%. Neither the face-to-face (F-T-F) or hybrid sections surpassed 70%. In the spring, only the online sections achieved even a 50% success rate in meeting expectations. For the spring semester, performance was down across all three delivery methods, but still above 70% meeting expectations for the online sections.

**Comparison to Previous Assessment Period:**

Although the overall results are similar to the previous period, they are not directly comparable. Due to the change in program goals the finance faculty teaching FIN 3313 also decided to change the assessment method. More questions were added to the method to attempt to get a better view of the specific areas of student performance. Specifically, questions were chosen to cover the full range of topics suggested by the curriculum committee in it’s review of the business core.

**Instructor Recommendations for Next Academic Year:**

Given the poor results for the course outside of the online sections, the teaching faculty will review the specific results in more detail over the summer to determine which specific areas, if any, gave the students the most difficulty. If specific areas are identified, those will be shared with the rest of the department faculty for feedback on ways to improve. This could include shifting focus away from topics more tailored to finance majors instead of non-majors and to the topics identified by the curriculum committee.

The findings will be communicated to the department faculty during the summer. The finance faculty will then meet after the fall department meeting to discuss a course of action. The decisions will be included in the revised report.

**AOL committee recommends the below procedure for programmatic or cross-course changes to address concerns regarding the competency Goal #2 (analytical skills) for 2021-2022**

**NEW PROCEDURE**

**STEP 1**: Every academic year, each core course coordinator can meet up with other core course instructors of the course to collect and update a common pool of supporting materials and resources for analytical skills for the course (TYPE 1 and 2).

**STEP 2**: The core course coordinators will collectively identify a cross-course pool of materials and resources for TYPE 1.

**CONTENT TYPES\*\***

**TYPE 1**: Basic/Advanced virtual refreshers (video clips or short written documents) of analytical tools

They can identify materials and resources from LinkedIn Learning, YouTube, and their own. For example, in LinkedIn Learning, there are multiple modules for learning spreadsheets (e.g., Master Microsoft Excel, Excel Essential Training, Improve Your Microsoft Excel Skills, etc.), with their content running time ranging from 35 minutes to several hours. They can select an appropriate set of learning modules for multiple tools and share them with students.

**TYPE 2**: Discipline-specific course materials for teaching students how to analyze problems and make data-informed decisions using analytical tools

These materials should be specific to the discipline. For example, in Business Law, professors use a process called IRAC (Issue Rule Application Conclusion) via the Socratic Method to help students develop analytical thinking and reasoning skills. Each discipline would decide on the basic content for analytical thinking unique to that discipline, but the individual instructors would be given the flexibility to teach or implement the content in a variety of ways like a handout, lecture, or exercise. The basic content need not be voluminous but should give the students a basic structure for approaching analytical thinking throughout the semester. Ideally, this would be covered early in the semester.

***BBA Program Level Competency Goal 3:***

**Competency Goal 3 states:**

**“Apply information technology skills to organizational problems and decisions.”**

**Graduates should be able to use information technology (IT) in their work environment and understand its impact in various organizational contexts and apply IT skills to analyze problems and make data-informed decisions.**

Two courses assessed this goal for the 2021-2022 academic year:

 Introduction to Microcomputer Applications (CIS 1323)

 Enterprise Information Technology and Business Intelligence (CIS 3380)

The results from each course along with an analysis of the results by the instructors and plans for the coming year appears below. Following that will be the recommendations of the joint meeting of the Undergraduate Curriculum Committee and the Course Coordinators from each course.

**CIS 1323: Introduction to Microcomputer Applications**

**Methods of Assessment:**

The course assessment is an integrated project administered and auto-graded through SIMnet.

The project contains elements of Microsoft Word (create an outline, use styles), PowerPoint (import the Word outline to create slides; use format painter, create a table on a slide), Access (import records to append a table from an Excel workbook, create select queries, export queries to a new Excel workbook), and Excel (create tables from structured data, format cells, create a pivot table and pivot chart, use cell referencing, use formulas such as multiplication, paste a table into PowerPoint, paste a chart into PowerPoint).

Students download the starter file (PowerPoint presentation) and a zipped resource file (Word document, Excel workbook, and Access database) from the SIMnet course site, then follow the instructions on the SIMnet course site to complete the PowerPoint file and upload the PowerPoint file for grading. Students are required to complete their work and file submission within the 75-minute time allocation.

During the 2021-2022 academic year, 27 sections were taught in the computer lab classroom (flipped pedagogy) and online (synchronous and asynchronous sections). The course is taught on the San Marcos campus or online.

**Expectations criteria:**

|  |  |
| --- | --- |
| Expectation | Criteria |
| Exceeds Expectations | Scores 90% or higher |
| Meets Expectations | Scores between 70% and 89% |
| Fails to Meet Expectations | Scores less than 70% |

The goal is for 70% of students to meet or exceed expectations.

**Results:**

Evaluation of All Students 2021-2022

69% of all students met or exceeded expectations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Expectations | Fall (N) | Fall (%) | Spring (N) | Spring (%) | Total (N) | Total (%) |
| Exceeds | 242 | 32% | 246 | 35% | 488 | 33% |
| Meets | 373 | 49% | 155 | 22% | 528 | 36% |
| Fails | 149 | 19% | 307 | 43% | 456 | 31% |
| Total | 764 |  | 708 |  | 1472 |  |

Evaluation of Business Majors 2021-2022

63% of business majors met or exceeded expectations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Expectations | Fall (N) | Fall (%) | Spring (N) | Spring (%) | Total (N) | Total (%) |
| Exceeds | 133 | 40% | 113 | 42% | 246 | 41% |
| Meets | 65 | 20% | 70 | 26% | 135 | 22% |
| Fails | 133 | 40% | 88 | 32% | 221 | 37% |
| Total | 331 |  | 271 |  | 602 |  |

**Instructor Observations:**

69% of all students met or exceeded expectations. Of the business students, only 63% business students met or exceeded expectations. The goal of 70% of all students (and business students) meeting or exceeding expectations was not met.

Returning to campus seems to have a positive effect on the results pointing to the need for continuing face-to-face flipped classroom sections in addition to fully online sections as a routine scheduling practice. The 20-21 academic year of 100% online instruction showed a significant drop in the percentage of students meeting or exceeding expectations (59% all students; 58% business students) while the prior (19-20) and current results are much closer to the goal of 70% of all students (and business students) meeting or exceeding expectations.

During the spring semester, SIMnet added a new report to help with understanding what skills are troublesome for students during this project. The report contains 19 learning objectives. Reviewing this report, there are four objectives that less than 50% of the students demonstrated mastery (Excel inserting data using autofill 42% mastery, PowerPoint applying character effects 42.9% mastery, PowerPoint changing the color of text 42.9%, and Excel exploring charts 44.5%).

One challenge students face is submitting the correct file for grading. Students are encouraged to rename their file and save it to a new location, but this is not regularly practiced. For the spring semester, the instructors changed the submission rules slightly by adding a second submission assuming time has not expired. Students were able to submit their file, return to Canvas grades to review their grade, then use the second submission for submitting the correct file or going back over the project instructions and making corrections for a second submission. (Students did not receive any feedback other than the grade.) 238 students took advantage of the second submission opportunity. 17 students in the spring semester submitted the starter file for one or both submissions.

A second challenge students face is completing the file submission process before time expires. Ten students did not complete the file submission process within the time allocation for the spring semester.

**Instructor Recommendations for Next Academic Year:**

Recommendations include continuing to schedule face-to-face flipped classroom sections in addition to fully online sections, so students have a choice.

Instructors noted that while face-to-face sections were offered, many students chose not to attend class meetings. Attendance was not required during the 21-22 academic year. Instructors are willing to require attendance in face-to-face sections but the determination to use attendance as a reward (extra credit) or punishment (loss of course points) will be up to the specific instructor.

Instructors believe that continuing with the two submissions during the time allocation is a good practice to continue.

Reviewing the new SIMnet report for learning objective mastery of this project and not just grades provides instructors distinct areas where additional attention can be focused to aid in student learning and mastery.

**CIS 3380: Enterprise Information Technology**

**Methods of Assessment:**

Data were collected measuring one of the McCoy College of Business Goals to assess student success in accomplishing activities designed to facilitate student learning. “Goal 3: Information Technology” were assessed and are reported.

A direct measure was used to assess student performance. Assignment provides learning opportunities in which student apply information technology (IT) to solve the problem. The assignments require students to access data sets, manipulate the data, and analyze the data.

The main purpose of this assignment is to explore students to how to use IT to solve real-world business problems.

The following criteria were used to determine if students exceeded, met, or failed to meet expectations:

• Exceeded expectations = students who earned 90 percent or better

• Met expectations = students who earned between 70 and 90 percent

• Below expectations = students who earned below 70 percent

**Results:**

In-Person classes (San Marcos):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2021-22 | FALL (N) | FALL % | SPRING (N) | SPRING % | TOTAL |  TOTAL % |
| EXCEEDED | 122 | 25% | 132 | 38% | 254 | 31% |
| MET | 181 | 38% | 127 | 36% | 308 | 37% |
| **EXCEEDED AND MET** | **303** | **63%** | **259** | **74%** | **562** | **68%** |
| BELOW | 177 | 37% | 91 | 26% | 268 | 32% |
| TOTAL | 480 | 58% | 350 | 42% | 830 | 100% |

Online classes:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2021-22 | FALL (N) | FALL % | SPRING (N) | SPRING % | TOTAL |  TOTAL % |
| EXCEEDED | 13 | 14% | 11 | 6% | 24 | 8% |
| MET | 34 | 36% | 54 | 28% | 88 | 30% |
| **EXCEEDED AND MET** | **47** | **49%** | **65** | **33%** | **112** | **39%** |
| BELOW | 48 | 51% | 130 | 67% | 178 | 61% |
| TOTAL | 95 | 33% | 195 | 67% | 290 | 100% |

Percentage of students of in-person classes who met or exceeded expectations: 68%

Percentage of students of online classes who met or exceeded expectations: 39%

Percentage of students combined who met or exceeded expectations for both in-person and online classes combined: 60%

**Instructor Observations:**

In CIS 3380 for the academic year of 2021-2022, 68% of the students met or exceeded the professor's expectations for in-person classes while 39% of the students met or exceeded the professor’s expectations for the online classes. Overall, 60% of the students met or exceeded the professor’s expectations for both in-person and online classes.

**Instructor Recommendations for Next Academic Year:**

Next year, we will use the same assignment to measure the Information Technology goal. Since less than 70% of the students were able to achieve this goal, we will reinforce the learning of the concepts of data visualization before assigning this assignment.

**AOL committee recommends the below procedure for programmatic or cross-course changes to address concerns regarding the competency Goal #3 (IT skills) for 2021-2022**

**NEW PROCEDURE**

**STEP 1**: Every academic year, each core course coordinator can meet up with other core course instructors of the course to collect and update a common pool of supporting materials and resources for IT skills for the course (TYPE 1 and 2).

**STEP 2**: The core course coordinators will collectively identify a cross-course pool of materials and resources for TYPE 1.

**CONTENT TYPES\*\***

**TYPE 1**: Basic/Advanced virtual refreshers (video clips or short written documents) of IT tools

They can identify materials and resources from LinkedIn Learning, YouTube, and their own. For example, in LinkedIn Learning, there are multiple modules for learning spreadsheets (e.g., Master Microsoft Excel, Excel Essential Training, Improve Your Microsoft Excel Skills, etc.), with their content running time ranging from 35 minutes to several hours. They can select an appropriate set of learning modules for multiple tools and share them with students.

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These materials should be specific to the discipline. For example, in Business Law, professors use a process called IRAC (Issue Rule Application Conclusion) via the Socratic Method to help students develop analytical thinking and reasoning skills. Each discipline would decide on the basic content for analytical thinking unique to that discipline, but the individual instructors would be given the flexibility to teach or implement the content in a variety of ways like a handout, lecture, or exercise. The basic content need not be voluminous but should give the students a basic structure for approaching analytical thinking throughout the semester. Ideally, this would be covered early in the semester.

**AOL committee also has a minor recommendation for programmatic change in CIS 3380.**

CIS and CIS Business Analytics students are taking CIS 3380 (core course for everyone in business, equivalent to basic ACC or basic MKT or basic FIN) in their senior year. These CIS students have already gone through at least half of the crucible of CIS. It is an absurd situation. According to Francis Mendez. THIS deserves a programmatic change. Either move CIS 3380 earlier in the program, change its content (leaving us without a basic CIS course) or take it out of the core for CIS students and replace it with another course.