Riverside City College

Curriculum Committee Minutes

https://www.rcc.edu/about/strategic-planning/tllc/curriculum-committee/resources.html

March 12, 2024 • 3-5 pm • Hall of Fame

1. Meeting Called to Order at 3:03 pm
    a. Note that Kweku Williams is on leave and the remainder of his term this semester will be served by Eddie Perez
    b. Motion for the committee to allow Representative Haines to participate under the AB2449 Emergency Circumstances provision for physical medical emergency: 1st Vermillion; 2nd Lowden; approved unanimously

Voting Committee Members Present	Voting Committee Members Absent
Juan Ahumada, *Communication Studies Dept. Rep. (23-25)*	**Madeline Bettencourt**, *Cosmetology Dept. Rep. (23-*
Tucker Amidon, *English & Media Studies Dept. faculty. (Spring 24 Rep)*	
Parissa Clark, *Economics/Geography/Political Science Dept. Rep. (23-25))*	
Paul Conrad, *Business Admin/Info Sys Tech Dept. Rep. (22-24)*	
Ellen Drinkwater, *Articulation Officer*	
Bobbie Grey, *Chemistry Dept. Rep. (23-25)*	
Mark Haines, *Dance and Theater Dept. Rep. (22-24)*	(via Zoom per AB 2449 Emergency Circumstances)
Shannon Hammock, *Library/Learning Resources Dept. Rep. (22-24)*	
Scott Hernández, *Applied Technology Dept. Rep. (22-24)*	
Robert Jew, *Art Dept. Rep. (23-25)*	
Ryan Joseph, *Life Sciences Dept. Rep. (22-24)*	
DyanSue Kovacs, *World Languages Dept. Rep. (22-24)*	
Amber Lappin, *Early Childhood Education Dept. Rep. (23-25)*	
Clara Lowden, *Kinesiology/Athletics Dept. Rep. (23-25)*	
Karyn Magno, *Counseling Dept. Rep. (23-25)*	
Valerie Merrill, *Mathematics Dept. Rep. (22-24)*	
Doris Namala, *History/Humanities/Philosophy/Ethnic Studies Dept. Rep. (22-24)*	
Eddie Perez, *Behavioral Science / Psychology Dept. Rep. (22-24)*	
Brock Russell, *Physical Sciences Dept. Rep. (23-25)*	
Steven Schmidt, *Music Dept. Rep. (23-25); Technical Review Com Chair*	
Amy Vermillion, *Nursing Education Dept. Rep. (23-25)*	
Non-Voting Committee Members	
Kelly Douglass, *Faculty Chair**, Curriculum Committee (22-24); English*	**David Caloca**, *ASRCC Student Co-Representative*
Casandra Greene, *RCC Curriculum Instructional Support Coordinator*	

Riverside City College MISSION: Riverside City College serves a diverse community of learners by offering certificates, degrees, and transfer programs that help students achieve their educational and career goals. The college strives to improve the social and economic mobility of its students and communities by being ready to meet students where they are, valuing and supporting each student in the successful attainment of their goals and promoting an inclusive, equity-focused environment.

VISION: Riverside City College strives to provide excellent educational opportunities that are responsive to the diverse needs of its students and communities, and empowers both to be active participants in shaping the future.

Consistent with Executive Order N-29-20 and Government Code sections 54953.2, 54954.1, 54954.2, and 54957.5, the Riverside City College Curriculum Committee will provide to individuals with disabilities reasonable modification or accommodation including an alternate, accessible version of all meeting materials. To request an accommodation, please contact Office of Diversity, Equity, & Compliance at 951-222-8039 or by email to Georgina Villaseñor-Lee: georgina.villasenor-lee@rccd.edu or Lorraine Jones: lorraine.jones@rccd.edu.

Alexa Salazar Trujillo, *ASRCC Student Co-Representative*	
Lynn Wright, *VP of Academic Affairs; Administrative Co-Chair of CC*	
Liaisons/Admin/Staff/Guests	
Skip Berry, *Business Admin/Info Sys Tech faculty member*	
Amanda Brown, *Mathematics faculty member*	
Steven Corbin, *Business Admin/Info Sys Tech faculty member*	
Ginka Gavrilov, *Mathematics faculty member*	
Janet Lehr, *Business Admin/Info Sys Tech faculty member*	
Mark Lehr, *Business Admin/Info Sys Tech faculty member*	
Scott McLeod, *Business Admin/Info Sys Tech faculty member*	
Mia Timme, *Instructional Department Specialist, English Media Studies and*	
Jason Wong, *Mathematics faculty member*	

2. Approval of the Agenda: 1st Amidon; 2nd Lowden; approved by consensus
   The agenda will be reviewed, discussed, and considered for approval.
3. Approval of Minutes: February 27, 2024: 1st Amidon; 2nd Hammock; approved by consensus
   The minutes will be reviewed, discussed, and considered for approval.
4. Public comment - none
   Public comment period provided for members of the public; Curriculum Committee Chair may limit comment period by a vote of the committee.

5. **Action Items**

   a. **GE Plan Amendments forwarded from Academic Standards:** Standards reviewed the proposals under the principal that the local RCCD general education pattern is intended for terminal 2-year degrees and not for transfer. While it fits within the CalGETC framework, the local pattern does not have to be an exact match. Standards considered the merits of each proposal, but also considered the potential for unit overload and its impact on students. All the proposals were forwarded as noted below unanimously with an 8-0 vote (one member of the committee was absent).

      i. **Action Items**

      Amendments to the 24-25 RCCD General Education Pattern
      All standards decisions were unanimous, with one member absent.

      a) **Proposal by CIS to include CIS-1A into Area 2**
      Forwarded by Standards without a recommendation in favor or against the proposal.
      1st Conrad; 2nd Lowden; Proposal denied (3 yes; 15 no; 3 abstentions)
      (approvals: Conrad, Hernandez, Kovacs; abstentions: Ahumada, Grey, Hammock)
      Discussion was lengthy; Speakers from the Math department shared results of their review of documents and felt that the course did not meet the requirements of quantitative reasoning for the area and that the course was more introductory; Speakers from the CIS discipline explained their view that the course does meet the quantitative reasoning threshold, described the course as not a survey and provided additional reasoning for why the course fits Area 2, referencing the 12 page document included in the supplemental documents provided to the committee; Chair clarified language from title 5 and shared summary of Standards Committee discussion from the February 29

minutes. Additional discussion centered around the Excel and database content in the course, both from the point of view of how much time in the course is spent using these as well as how the programs are used, discussion of the need for students with a terminal two-year course to have a clear quantitative reasoning course, the nature of database work, statistical analysis, and other examples; further discussion about curriculum and Standards process and about the role of the curriculum committee in this decision, the Title 5 creation of category of Area 2 from two pre-existing areas and the language from the original categories that followed to the new category, as well as the process for CIS discipline to submit CIS 1A for Area 2 in a future regular Gen Ed inclusion proposal perhaps that could be proposed with a course major mod with modifications to indicate more of the quantitative reasoning elements so they are more visible in, and required by, the course outline of record.

b) Proposal by COM to Modify Area 1 by creating Area 1B – Oral Communication and Area 1C – Critical Thinking
Forwarded by Standards with a recommendation to not approve the proposal.
1st Vermillion; 2nd Lowden; Proposal denied (1 yes; 20 no; 0 abstention) (approval: Ahumada)
Brief discussion to clarify that the Title 5 language has two sub-sections for Area 1 (1A and 1B). Proposal is to make 1B into two areas (1B and 1C) adding an additional 3-unit requirement.

c) Proposal by HIS to add an American Institutions Area to the GE Pattern
Forwarded by Standards with a recommendation to not approve the proposal.
1st Vermillion; 2nd Amidon; Proposal denied unanimously
Brief clarification that this proposal would add an additional 3-unit requirement.

d) Proposal by MAT to remove CIS 14A, CSC 14A, CSC 8, CIS 18A, CSC 18A, and CIS 30A from Area 2
Forwarded by Standards with a recommendation to not approve the proposal.

   a. Noted before discussion began that CSC 8 was retracted by the Math department from their proposal

   b. **Motion to remove CIS 14A, CSC 14A, CIS 18A, CSC 18A, CIS 30A from area 2:**
   1st Merrill; 2nd Amidon; Proposal denied (1 yes; 20 no; 0 abstention) (approval: Merrill)

Discussion to clarify that courses are already in the new Title 5 language aligned Gen Ed plan approved by this committee in December 2023 and that this proposal is to remove them; concern expressed among some committee members that this is not a good precedent to set; additional discussion debating the idea that these courses may not fit the newly created Area 2 Quantitative Reasoning area. Chair clarified the recommendation that the Standards committee made to this curriculum committee back in December

was a recommendation based on the Title 5 language. Concern expressed that this proposal is being considered since these courses were approved by Curriuclum Committees in December. Additional discussion from math faculty and their intention not to disregard other disciplines but to share their opinions from math expertise; further examination of both old and new Title 5 language that both name computer language courses as course types that may be included.

ii. **Information Item**
Proposal by HIS to include History courses in both Area 3 (Arts and Humanities) and Area 4 (Social and Behavioral Sciences)
Standards voted to not forward this proposal to the Curriculum Committee. With the exception of HIS-1, 2, and 2H, the HIS courses in question are not in the 23-24 RCCD Humanities area, and were therefore not included in the proposed 24-25 Arts and Humanities area. However, the HIS discipline can follow the regular general education modification procedure to propose them for inclusion into the 24-25 RCCD general education pattern.

b. **Curriculum proposals** *Curriculum proposals will be reviewed, discussed, and considered for approval and forwarding to the District Curriculum Committee.*

Course Deletions			
SPA-3N	Spanish for Spanish Speakers	*Spanish 3N has not been offered at RCC for quite some time. Since the course is currently only offered at RCC, the best course of action is to launch a course deletion. 2/27/24 and 3/12/24 action: Hold to wait for ECE/EDU cert.*	R
Program Modification			
SPA-ADT	Spanish	*To align Associate in Arts in Spanish for Transfer degree with curriculum modifications – new courses and course deletions. 2/27/24 CC action: Hold to wait for ECE/EDU cert. 3/12/24 action: **APPROVE** (because the SPA 3N course is removed so doesn't need to wait for the deletion) 1st Amidon; 2nd Lowden; approved unanimously*	R

6. Reports
   a. Curriculum Chair – Kelly Douglass
      i. RCC Senate bylaws clean-up effect on Curriculum Reps: Discussion of Senate proposal to align election cycle of curriculum reps with the election cycle of

Senators based on language in bylaws that suggests they should be on the same cycle. Most of the representatives are on the opposite cycle of the even year or odd year rotation (with the exception of Communication Studies, Dance and Theater, and Music which appear to already be aligned). Exactly how to resolve will be clearer after the next Senate meeting; the only part we know for sure is those with terms ending 24-26 will need to be re-elected, but hold until we understand the implications of re-alignment. Should be resolved by next Curriculum Committee meeting, so please wait on department election of representatives until then.

ii. Cross-listing vs. Cross-discipline – Tabled until next meeting to allow time for other reports

b. Articulation Officer – Ellen Drinkwater – no report

c. Instructional Programs Support Coordinator – Casandra Greene: Addressed inquiries about updated compliance reports to note that will be coming in the next month or so.

d. Tech Review Chair – Steven Schmidt – no report

e. VPAA – Lynn Wright

i. Thanked the committee for the hard work and noted how important it is and how hard everyone has been working and how much it is appreciated

ii. Cookies are on the way to lift spirits and energy after our long discussion!

f. ASRCC Representative – Alexa Salazar Trujillo

i. Club Rush is happening now.

1. Today from 4-6, they have churros.
2. Wed - 10-2 extreme nachos
3. Thursday – loaded baked potatoes

ii. Bunny Hop – March 22, 5-7

1. Last year was so many people they are moving to practice field to accomodate the crowds.
2. Food and Entertainment.

g. Equity-Minded Curriculum:

i. Chair Douglass shared info from a webinar in early Feb. from the State Chancellor's Office on the relationship between HBCUs and CCCs which included mention of MOUs regarding our system ADTs and transfer to HBCU, and they provided some links noted below for anyone who wants to share or explore:

1. ADT alignments can be found via the Transfer Search Tool - https://icangotocollege.com/transfer-tool This is a living tool with new alignments added regularly

2. For more information on the HBCU Transfer Pathways visit our website - https://www.californiacommunitycollegehbcutransfer.com/
3. Join the CCC to HBCU listserv - tinyurl.com/HBCUTransfer
4. Also noted from the committee: Umoja counselor has information on scholarships

ii. Committee member recommended a program offered called SafeTalk to learn more about supporting students with mental health struggles and specifically thoughts of suicide. Concern from both professional and personal parental experiences about students here now and coming to us who are struggling immensely in the wake of the last four years, too many of whom are struggling with suicidal thoughts.

1. Committee member shared personal experience with a family member dealing with thoughts of suicide and emphasized the importance of doing the training to have the resources to support students. It takes work but is important and our students need support.
2. Student perspective shared that the smallest details of asking how someone is doing goes a long way. It may not seem like a lot, but it makes a huge difference.
3. Nursing department is doing suicide prevention training as part of their department

7. Curriculum Policy & Procedure:
   a. Curricunet META minutes attachment/form change
      i. Brief mention of changed format for showing discipline approval in proposal launches
      ii. Full explanation of new form sent with meeting materials will be tabled for next meeting
   b. Tentative: Interdisciplinary degree curriculum review process – tabled until next meeting
   c. IDEAA Strategies for Curriculum from Curriculum Regional on February 24 – tabled until next meeting
   d. Discussion of meeting time adjustment – tabled until next meeting
8. Open Forum – no items; (accidentally may have skipped after discussion of item 6.g.ii.)
   Discussion forum provided for members of the committee to clarify points on agendized topics or request an item be added to a future agenda..
9. Next Meeting: March 26, 2024

Attachments:

- RCCD General Education Proposal Supplemental Documentation
- Curricunet Meta Minutes Form
- February 27, 2024 draft minutes and attachments

TIGER PRIDE VALUES

Tradition and Innovation: We work collaboratively to develop flexible and creative solutions to meet the evolving needs of our community and embrace change while respecting our tradition and legacy of strong partnerships.

Integrity and Transparency: We promote an environment of trust by being honest, fair, transparent, and equitable. We honor our commitments to our students, staff, and communities.

Growth and Continual Learning: We commit to intellectual inquiry, reflection, professional development, and growth for all stakeholders. We adjust our teaching practices to provide equitable opportunities and outcomes and to encourage continual learning for our students, faculty, and staff.

Equity-Mindedness: We promote social justice and equity.

Responsiveness: We respond to the needs of our students and communities through engagement and collaboration.

Student-Centeredness: We create meaningful learning environments that value the strengths and experiences our students bring and that support students in developing and accomplishing their personal, education, and career goals.

Proposals to Amend the RCCD GE Pattern

Supporting Documentation

Rationale Document-CIS-1A-RCCD General Education Area 2

District Discipline Approval Statement

This rationale document was discussed, reviewed, and approved by faculty discipline experts in the Computer Information Systems/Computer Science disciplines.

Skip Berry (RIV)
Paul Conrad (RIV)
John Coverdell (NOR)
Steve Corbin (RIV)
Matt Fast (MVC)
Janet Lehr (RIV)
Mark Lehr (RIV)
Scott McLeod, (RIV)
Kasey Nguyen (MVC)
Jessiah Ruiz (NOR)

Dated: February 26, 2024

Title 5 Language-Area 2- Mathematical Concepts and Quantitative Reasoning (3-4 units)

Mathematical Concepts and Quantitative Reasoning (minimum of 3 semester/4 quarter units). Courses fulfilling this requirement must be at least college-level and may include mathematics or quantitative reasoning courses, including logic, statistics, computer languages, and related disciplines.

CIS-1A Fulfills General Education Area 2

1. The language of Title 5 Area 2 does not provide any criteria or guidelines as to how much of a course meets the requirement.

2. There are no college processes, criteria, or guidelines defining how much content must meet the requirement, nor which classes constitute "related disciplines".

3. To fulfill the requirement the course must be at least college-level and *may include* mathematics or quantitative reasoning courses, including logic, statistics, computer languages*, and related disciplines*. The word "may" is not indicative of a hard, legal "shall". In addition, the language leaves room for related disciplines, of which Computer Information Systems is one.

4. The Course Outline of Record for the course, in fact, for all courses in the district does not list what percentage of the course is dedicated to each content topic. Over 50 percent of the CIS-1A Course content is dedicated to the application of quantitative reasoning, statistical, and mathematical reasoning.

5. Two of three CIS-1A Student Learning Outcomes include solving common business problems using appropriate Information Technology applications and systems, as well as development and use of information systems in business.

    - The Computer Information Systems 1A course incorporates quantitative reasoning in multiple ways, particularly in the spreadsheet and database instruction.

- Quantitative reasoning and mathematical concepts and techniques are used to develop, analyze and solve problems.
- Over 50 percent of the course is dedicated to quantitative, statistical, and mathematical reasoning using Microsoft Excel and Access.

The CIS-1A course fulfills the requirements of this area and should remain listed in Area 2 of the revised RCCD General Education.

CIS-1A-Supporting Documentation - Overview Quantitative Reasoning – Excel

Quantitative reasoning in Microsoft Excel involves using mathematical and statistical functions to analyze and make decisions based on numerical data. Some common quantitative reasoning tasks performed using Excel in CIS-1A include:

1. Calculating averages, sums, and other basic statistics for a set of numbers using functions like AVERAGE, SUM, COUNT, and others.
2. Creating charts and graphs to visualize data trends and patterns.
3. Performing regression analysis to identify relationships between variables.
4. Using conditional formatting to highlight values that meet certain criteria.
5. Applying filters and sorting data to identify outliers or patterns in the data.
6. Using pivot tables to summarize and analyze large datasets.

CIS-1A-Quantitative Reasoning and Mathematical Application-Excel Detail

Working with Formulas and Functions

The development of Excel formulas and functions is a task that requires understanding and applying mathematical principles, logical structuring and problem solving, data interpretation and decision making.

Understanding and Applying Mathematical Principles

Quantitative Reasoning:

- Developing Excel formulas in CIS-1A requires application of the mathematical principles that underpin the calculations needed. This task involves recognizing which mathematical operations (addition, subtraction, multiplication, division, etc.) or statistical methods (mean, median, mode, standard deviation, etc.) are appropriate for the data analysis task at hand.

For instance, calculating a weighted average using Excel functions necessitates an understanding of both the concept of weighting in mathematics and how to implement it through a series of mathematical operations in Excel.

Mathematical Application:

- The construction of formulas in Excel in CIS-1A is a direct application of mathematical concepts.

For example, to calculate compound interest, one must apply the formula A = P(1 + r/n)^(nt), translating this mathematical expression into an Excel formula requires not only

an understanding of the equation but also how to adapt it into Excel's syntax, using cell references and Excel functions.

Logical Structuring and Problem Solving

Quantitative Reasoning:

- Effective formula development in Excel often involves structuring complex problems into solvable components. This includes breaking down a task into smaller, logical steps that can be addressed individually with Excel functions and then integrating these steps into a cohesive solution.

For example, in CIS-1A an exercise may require creating a financial model that involves separately calculating revenues, costs, and net profit before combining these elements into a comprehensive spreadsheet model. Each step requires its own set of formulas, which must work together logically and accurately.

Mathematical Application:

- Problem-solving in Excel is similar to solving mathematical problems where one must identify unknowns, understand the relationships between different variables, and apply logical operations to reach a solution.
- Developing complex Excel formulas often involves conditional logic (using IF statements), iterative calculations (using functions like SUMPRODUCT or array formulas), and even recursion in some advanced cases, all of which require a solid grounding in mathematical logic and reasoning.

For example, calculating the effects of inflation, interest rates, loan amortization, and comparing inventories.

Data Interpretation and Decision Making with Excel

Quantitative Reasoning:

- The ultimate goal of developing Excel formulas is to analyze and interpret data to inform decision-making. This requires an ability to not only execute mathematical operations within Excel but also to understand what the results of these operations imply in a real-world context.

For instance, analyzing sales data over time with Excel might involve using formulas to calculate growth rates, seasonal adjustments, or forecasting future trends. Each of these analyses requires not just mathematical calculations but also an understanding of what these calculations reveal about business performance and potential strategies.

Mathematical Application:

- The interpretation of data and the subsequent decision-making process require the application of statistical reasoning and mathematical modeling.

For example, forecasting future sales might involve regression analysis or time-series analysis, each of which relies on statistical principles. Developing Excel formulas that can accurately perform these analyses—and understanding the limitations and assumptions underlying these mathematical models—is crucial for making informed business decisions.

The development of Excel formulas and functions is intertwined with quantitative and mathematical reasoning, from the direct application of mathematical operations and logical problem-solving to the interpretation of data for informed decision-making. Students leverage Excel's capabilities to turn raw data into actionable insights.

Creating and Editing Charts in Excel

Creating and editing charts in Excel not only makes data visually appealing but also involves significant quantitative and mathematical reasoning in, for example, the selection and representation of data, selection of the correct chart type, setting up the scale and range, and interpreting and modifying the charts.

Data Selection and Representation

Quantitative Reasoning:

- Deciding what data to include in a chart requires an understanding of the dataset's quantitative aspects, identification of which variables are relevant and how they can be compared or correlated. For instance, creating a line chart to track sales over time involves recognizing that time (x-axis) and sales figures (y-axis) have a quantitative relationship.

Mathematical Application:

- The mathematical concept of variables and their relationships is applied here. Selecting data for a chart requires understanding how one variable affects another, which is a foundational concept in functions and graphing in mathematics.

Choosing the Correct Chart Type

Quantitative Reasoning:

- Different charts serve different purposes and are suitable for various kinds of data analysis. For example, pie charts are ideal for showing proportions, while scatter plots are better for demonstrating correlations between two variables. Choosing the right chart type involves reasoning about the nature of the data and the goal of the analysis/output.

Mathematical Application:

- This choice involves understanding mathematical concepts like proportions, distributions, and relationships. For instance, recognizing that a scatter plot can show a linear or non-linear relationship between two variables requires an understanding of basic algebraic principles.

Setting the Scale and Range

Quantitative Reasoning:

- When editing a chart, setting the appropriate scale and range for the axes involves understanding the dataset's scale, outliers, and distribution. This ensures that the chart accurately reflects the data's trends or patterns without distortion.

Mathematical Application:

- This involves mathematical concepts such as scales, intervals, and ranges. For example, deciding how to set the intervals on the y-axis requires an understanding

of the data's range (maximum and minimum values) and how to divide this range into equal parts, a concept rooted in division and fractions.

Interpreting and Modifying Charts for Insights

Quantitative Reasoning:

- After creating a chart, interpreting its implications involves analyzing the visual representation to draw conclusions about the data. This might involve identifying trends, spotting outliers, or making comparisons. Editing the chart for clarity or enhanced insight, such as adjusting colors for better contrast or adding labels for clarity, requires a further application of quantitative reasoning to improve data communication.

Mathematical Application:

- The interpretation and modification process is analytical and often involves statistical reasoning, especially when identifying trends or outliers. Understanding how to visually represent data in a way that highlights its statistical properties—like the mean, median, mode, or standard deviation—demonstrates applied mathematical reasoning.

In summary, creating and editing charts in Excel requires quantitative and mathematical reasoning, from the initial selection and representation of data to the interpretation of complex data visualizations.

Acquiring and Managing Data in Excel

Acquiring and managing data using Microsoft Excel's data functions not only involves interacting with the software but also requires quantitative and mathematical reasoning to apply data functions and formulas, perform logical testing and conditional operations, and for data analysis and interpretation.

Application of Data Functions and Formulas

Quantitative Reasoning:

- CIS-1A students use Excel's data functions—such as SUM, AVERAGE, VLOOKUP, and INDEX MATCH which requires an understanding of what each function does, how it applies to the data at hand, and what the output means in a real-world context. This reasoning extends to knowing when to use a certain function over another based on the data's structure and the desired outcome. For example, choosing between using AVERAGE and MEDIAN depends on understanding the difference between these measures of central tendency and how they are influenced by outliers in your data set.

Mathematical Application:

- The use of these functions is directly tied to mathematical operations. Calculating sums, averages, or even more complex statistical measures within Excel involves applying mathematical formulas and understanding their implications. For instance, using the PMT function to calculate loan payments involves understanding the mathematical formula behind it, including interest rates and loan terms, which are rooted in financial mathematics.

Logical Testing and Conditional Operations

Quantitative Reasoning:

- Excel's conditional functions, such as IF, AND, OR, and the array of conditional formatting options, require the students to apply logical testing and reasoning. This involves making decisions based on quantitative criteria and setting up conditions that reflect logical operations. For example, using an IF statement to categorize sales data into "High," "Medium," and "Low" categories involves defining quantitative thresholds for each category.

Mathematical Application:

- Logical operations in Excel are underpinned by Boolean algebra, a branch of mathematics that operates on true/false values. Setting up complex conditional formulas often mirrors the construction of logical statements in mathematics, requiring an understanding of how different conditions interact and produce outcomes based on mathematical logic.

Data Analysis and Interpretation

Quantitative Reasoning:

- The interpretation of results produced by Excel's functions requires quantitative reasoning. This might involve analyzing trends in a data set, comparing figures to identify growth or decline, or synthesizing data from multiple functions to draw comprehensive insights.

Mathematical Application: (may exclude, remove content)

- Many of Excel's functions for data analysis, such as those found in the Data Analysis Toolpak, are based on statistical and mathematical theories. Understanding the output of these tools, requires knowledge of statistics and the ability to apply this knowledge in reviewing and making decisions based on the Excel output.

In summary, the acquisition and management of data using Microsoft Excel's data functions are utilize quantitative and mathematical reasoning. From applying basic and advanced functions to performing logical operations and interpreting the results of data analysis, students must engage with mathematical concepts and reasoning to effectively navigate and leverage Excel for data management and decision-making.

SEE APPENDIX for CIS-1A-EXCEL-SAMPLE ASSIGNMENTS

CIS-1A-Overview Quantitative Reasoning – Access (Database)

Quantitative reasoning in the development of a Microsoft Access database involves analyzing and interpreting numerical data to make informed decisions. This can be done using various mathematical and statistical functions within the database queries to perform tasks such as calculating averages, totals, percentages, and trends. Some examples of quantitative reasoning in a Microsoft Access database include:

1. Calculating the average sales revenue for a specific time period.
2. Determining the total number of customers who purchased a certain product.
3. Analyzing trends in sales data over time to identify patterns or anomalies.
4. Calculating the percentage of total sales from different regions or product categories.
5. Creating charts or graphs to visually represent the data and make it easier to interpret.

CIS-1A-Quantitative and Mathematical Reasoning Detail – Access (Database)

Examples of quantitative and mathematical reasoning in specific topic areas for CIS-1A students using Microsoft Access are in the creation of database tables, data validation and analysis for database relationships, and in the creation of forms, queries and reports.

Creating Database Tables:

Normalization Techniques:

- Applying normalization principles (such as First Normal Form, Second Normal Form, Third Normal Form) to design tables that minimize redundancy and ensure data integrity.
- Using mathematical reasoning to identify and eliminate data anomalies like update anomalies, insertion anomalies, and deletion anomalies through proper table structure.

Data Types and Field Sizes:

- Choosing appropriate data types (e.g., Integer, Decimal, Date/Time) and field sizes based on the nature and range of the data.
- Utilizing mathematical reasoning to determine the precision and scale of numerical data types to accommodate calculations and aggregations without loss of accuracy.

Primary and Foreign Key Constraints:

- Establishing primary key constraints to ensure each record in a table is uniquely identified.
- Implementing foreign key constraints to enforce referential integrity and establish relationships between tables.
- Using mathematical reasoning to ensure that primary and foreign key relationships accurately reflect the logical connections between data entities.

Data Validation for Analysis and Relationships:

Input Masks and Validation Rules:

- Defining input masks and validation rules to enforce data integrity and ensure that data entered into the database meets specific criteria.
- Applying mathematical reasoning to create validation rules based on numerical ranges, patterns, or formulas to validate user input effectively.

Referential Integrity:

- Enforcing referential integrity to maintain consistency between related tables and prevent orphan records.
- Using mathematical reasoning to ensure that foreign key values in child tables reference valid primary key values in parent tables, preserving the integrity of the data relationships.

Check Constraints:

- Implementing check constraints to enforce domain integrity and restrict the values that can be entered into a column.
- Applying mathematical reasoning to define check constraints based on mathematical conditions, such as ensuring that a numeric value falls within a certain range or meets specific mathematical criteria.

Creating Queries, Forms, and Reports:

Aggregate Functions:

- Using aggregate functions (e.g., SUM, AVG, COUNT) in queries to perform mathematical calculations on groups of records.
- Applying mathematical reasoning to aggregate data and generate summary information for analysis and reporting purposes.

Calculated Fields:

- Creating calculated fields in queries to perform mathematical operations on existing data fields or combine data from multiple fields.
- Utilizing mathematical reasoning to define expressions for calculated fields, such as calculating profit margins, growth rates, or other derived metrics.

Graphical Representation:

- Designing forms and reports with graphical elements (e.g., charts, graphs) to visually represent quantitative data and trends.
- Using mathematical reasoning to select appropriate chart types and formats that effectively communicate key insights and analysis derived from the data.

These examples demonstrate how quantitative and mathematical reasoning are integral to various aspects of database development and analysis in Microsoft Access, from table design and data validation to querying, visualization, and reporting.

SEE CIS-1A-ACCESS-SAMPLE ASSIGNMENTS

Appendix

Sample CIS-1A-Excel Topics – Working with Formulas and Functions

2.1 Build and edit basic formulas (p. E2-106).

- A ***formula*** is a calculation that uses arithmetic operators, worksheet cells, and constant values. Basic arithmetic operations are addition, subtraction, multiplication, and division.
- Type a formula in the cell or point and click to select cells.
- When you type a formula, ***Formula AutoComplete*** displays suggestions for completing the formula.
- Formulas are edited in the *Formula* bar or in the cell to change cell addresses, use a different operator, or add cells to the calculation.

2.2 Set mathematical order of operations in a formula (p. E2-109).

- Excel follows mathematics rules for the order in which operations are carried out when a formula has more than one operator.
- Control the sequence of calculations by placing operations that should be done first within parentheses.
- Use the following acronym to help remember the order of arithmetic operations: **P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally (**P**arentheses, **E**xponentiation, **M**ultiplication, **D**ivision, **A**ddition, **S**ubtraction).

2.3 Use absolute, mixed, relative, and 3D references in a formula (p. E2-111).

- A ***relative cell reference*** in a formula is the cell address which, when copied, updates to the address of the copy.
- An ***absolute cell reference*** is the cell address with dollar signs, as in $A$5. This reference does not change when the formula is copied.
- A ***mixed cell reference*** contains one relative and one absolute address, as in $B5 or B$5. When copied, the absolute part of the reference does not change.
- A ***3D cell reference*** is a cell in another worksheet in the same workbook. It includes the name of the worksheet followed by an exclamation point, as in *Inventory!B2*.
- Name a single cell or a group of cells with a defined ***range name***.
- Use range names in formulas instead of cell addresses.
- *Formula AutoComplete* displays range names so that you can paste them in a formula.
- A named range is an absolute reference.
- Navigate from the *Name Box* to named ranges in the workbook.

2.4Use formula auditing tools in a worksheet (p. E2-120).

- Excel highlights certain types of formula errors as you work, but you still need to review errors and make corrections.
- Excel automatically error-checks formulas based on its internal rules. A potential error is marked in the upper-left corner of the cell with a small triangle.
- ***Formula auditing*** tools include several commands to aid your review of workbook formulas and functions.
- The *Formula Auditing* group on the *Formulas* tab includes the *Trace Precedents* and *Trace Dependents* buttons.
- A ***circular reference*** is an error that occurs when a formula includes the address of the formula.
- Occasionally errors are noted as you press a completion key and can be quickly corrected by accepting the suggested correction in the message window.

2.5 Work with *Statistical* and *Date & Time* functions (p. E2-127).

- Use the *Insert Function* dialog box to search for a function from a category or by a description of your task.

- The *Function Arguments* dialog box details required and optional arguments and helps you complete a function according to its syntax.
- The *MEDIAN* function calculates the value that represents the precise middle of a range.
- The *MODE* functions find the most common value (*MODE.SNGL*) or values (*MODE.MULT*) in a range.
- The *COUNT* function tallies the number of cells in a range but only includes cells with values.
- Use *COUNTA* to count any type of data and *COUNTBLANK* to count empty cells.
- The ***AutoCalculate*** feature displays numerical results such as *Sum*, *Average*, and *Count* on the *Status* bar for selected cells.
- Excel defaults to automatic calculation so that all formulas are recalculated as soon as you make an edit.
- The *Date & Time* category includes a *TODAY* function and a *NOW* function that display the current date and time.

2.6 Use functions from the *Financial*, *Logical*, and *Lookup & Reference* categories (p. E2-135).

- The *PMT* function from the *Financial* category calculates a constant payment amount for a loan.
- The *Logical* function *IF* evaluates a statement or condition and displays a particular result when the statement is true and another result when the condition is false.
- A *Lookup* function displays data from a list located in another part of the workbook.
- *XLOOKUP* searches for a value in one range and displays the match from another range.
- An ***array*** is a collection of values, which usually maps to a range in Excel.
- All versions of Excel include *VLOOKUP* (vertical) and *HLOOKUP* (horizontal) functions.

2.7 Work with *Text* functions (p. E2-150).

- *Text* functions are used to manage strings of text, values, or characters.
- The *TEXTJOIN* function joins a series of labels or other data using a single delimiter between each item.
- A ***delimiter*** is a character that separates data items.
- *CONCAT* joins or combines data strings with specified separators for each item.
- When you use a *Text* function to join data, you must keep the source data in an accessible location so that the function can execute as expected.

2.8 Build functions from the *Math & Trig* category (p. E2-152).

- The *ROUND* function adjusts a value up or down based on the number of decimal places.
- The *SUMIF* function includes cells in a total only if they meet a set ***criteria*** or condition.
- The *SUMPRODUCT* function multiplies corresponding cells from an array and then totals the results of each multiplication.

CIS-1A-Excel-Sample Assignment: Independent Project 2-5

San Diego Sailing maintains a fleet of rental and charter boats. Your task is to fix a circular reference error, calculate projected rental rates, and calculate statistics about past rentals.

Skills Covered in This Project

- Use formula auditing tools.
- Create and copy formulas.
- Use relative, mixed, and 3D cell references.
- Set mathematical order of operations.
- Build an *IF* formula.
- Use the *COUNTIF* function.
- Use the *SUMIF* function.
- Fill a date series with the *TODAY* function.

Assignment Sample Output

San Diego Sailing Bookings
# of Passengers and Charges

Date	Boat ID	Make and Model	# of Passengers	Charges
7/1/2022	1010	Catalina Wave	4	$375
6/29/2022	1015	Catalina Sky	6	$725
6/27/2022	1168	Hunter 33	6	$425
6/25/2022	1175	Beneteau 40	5	$750
6/23/2022	1180	Beneteau 373	8	$369
6/21/2022	1185	Hunter Sea	8	$349
6/19/2022	1190	Beneteau 373	10	$369
6/17/2022	1200	Beneteau 373	4	$625
6/15/2022	1205	Beneteau 40	12	$750
6/13/2022	1225	Hunter Sea	8	$725
6/11/2022	1230	Catalina Wave	6	$650
6/9/2022	1146	Hunter Ray	4	$500
6/7/2022	1150	Capri MKZ	6	$500
6/5/2022	1152	Capri 22 Mk II	4	$500
6/3/2022	1164	Capri 22 Mk II	3	$500
6/1/2022	1168	Hunter 33	5	$725
5/30/2022	1185	Hunter Sea	8	$725
5/28/2022	1015	Catalina Sky	6	$725

Bookings by Make

	Count	Total Revenue
Beneteau	5	$2,863
Capri	3	$1,500
Catalina	4	$2,475
Hunter	6	$3,449

San Diego Sailing
Rental and Charter Fleet

Boat ID	Make and Model	Length	Model Year	Seats	Sleeps	Galley with Stove	Half-Day Rate	Full Day Rate
1010	Catalina Wave	28'4"	2010	8	6	Yes	$375.00	$650.00
1015	Catalina Sky	28'4"	2012	8	6	Yes	$425.00	$725.00
1146	Hunter Ray	33'6"	2014	10	6	Yes	$350.00	$500.00
1150	Capri MKZ	24'8"	2011	6	4	No	$325.00	$500.00
1152	Capri 22 Mk II	24'8"	2016	6	4	No	$325.00	$500.00
1164	Capri 22 Mk II	24'8"	2016	6	4	No	$325.00	$500.00
1168	Hunter 33	33'6"	2018	10	6	Yes	$425.00	$725.00
1175	Beneteau 40	39'10"	2018	12	6	Yes	$489.00	$750.00
1180	Beneteau 373	36'11"	2017	10	6	Yes	$369.00	$725.00
1185	Hunter Sea	35'6"	2009	10	6	Yes	$349.00	$550.00
1190	Beneteau 373	36'11"	2017	10	6	Yes	$369.00	$625.00
1200	Beneteau 373	36'11"	2017	10	6	Yes	$369.00	$625.00
1205	Beneteau 40	39'10"	2018	12	6	Yes	$489.00	$750.00
1225	Hunter Sea	35'6"	2012	10	6	Yes	$349.00	$725.00
1230	Catalina Wave	28'4"	2019	8	6	Yes	$439.00	$675.00

San Diego Sailing
New Prices at 5% and 10% Increases

			Half-Day		Full Day	
Boat ID	Make and Model	Length	5%	10%	5%	10%
1010	Catalina Wave	28'4"	$393.75	$412.50	$682.50	$715.00
1015	Catalina Sky	28'4"	$446.25	$467.50	$761.25	$797.50
1146	Hunter Ray	33'6"	$367.50	$385.00	$525.00	$550.00
1150	Capri MKZ	24'8"	$341.25	$357.50	$525.00	$550.00
1152	Capri 22 Mk II	24'8"	$341.25	$357.50	$525.00	$550.00
1164	Capri 22 Mk II	24'8"	$341.25	$357.50	$525.00	$550.00
1168	Hunter 33	33'6"	$446.25	$467.50	$761.25	$797.50
1175	Beneteau 40	39'10"	$513.45	$537.90	$787.50	$825.00
1180	Beneteau 373	36'11"	$387.45	$405.90	$761.25	$797.50
1185	Hunter Sea	35'6"	$366.45	$383.90	$577.50	$605.00
1190	Beneteau 373	36'11"	$387.45	$405.90	$656.25	$687.50
1200	Beneteau 373	36'11"	$387.45	$405.90	$656.25	$687.50
1205	Beneteau 40	39'10"	$513.45	$537.90	$787.50	$825.00
1225	Hunter Sea	35'6"	$366.45	$383.90	$761.25	$797.50
1230	Catalina Wave	28'4"	$460.95	$482.90	$708.75	$742.50

Excel 2-5

Formulas used in Assignment:

	A	B	C	D	E	F
4	**Date**	**Boat ID**	**Make anad Model**	**# of Passengers**	**Total Fees**	**Revenue per Passenger**
5	43926	1010	Catalina Wave	4	525	=E5/D5
6	43929	1015	Catalina Sky	6	850	=E6/D6
7	43932	1146	Hunter Ray	6	500	=E7/D7
8	43935	1150	Capri MKZ	6	525	=E8/D8
9	43938	1152	Capri 22 Mk II	4	325	=E9/D9
10	43941	1164	Capri 22 Mk II	3	475	=E10/D10
11	43944	1168	Hunter 33	6	725	=E11/D11
12	43947	1175	Beneteau 40	10	850	=E12/D12
13	43950	1180	Beneteau 373	8	350	=E13/D13
14	43953	1185	Hunter Sea	8	650	=E14/D14
15	43956	1190	Beneteau 373	10	625	=E15/D15
16	43959	1200	Beneteau 373	8	725	=E16/D16
17	43962	1205	Beneteau 40	12	850	=E17/D17
18	43965	1225	Hunter Sea	8	725	=E18/D18
19	43968	1230	Catalina Wave	6	675	=E19/D19
20						
21						
22						
23						
24						
25			Bookings by Make			
26				**Count**	**Total Revenue**	
27			Beneteau	=COUNTIF($C$5:$C$19,"ben*")	=SUMIF($C$5:$C$19,"ben*",$E$5:$E$19)	
28			Capri	=COUNTIF($C$5:$C$19,"cap*")	=SUMIF($C$5:$C$19,"cap*",$E$5:$E$19)	
29			Catalina	=COUNTIF($C$5:$C$19,"cat*")	=SUMIF($C$5:$C$19,"cat*",$E$5:$E$19)	
30			Hunter	=COUNTIF($C$5:$C$19,"hun*")	=SUMIF($C$5:$C$19,"hun*",$E$5:$E$19)	

Formulas Continued:

	A	B	C	D	E	F	G
1	San Diego Sailing						
2	New Prices at 5% an						
3				Half-Day		Full Day	
4	**Boat ID**	**Make and Model**	**Length**	**0.05**	**0.1**	**0.05**	**0.1**
5	1010	Catalina Wave	28'4"	=(1+D$4)*Fleet!$H5	=(1+E$4)*Fleet!$H5	=(1+F$4)*Fleet!$I5	=(1+G$4)*Fleet!$I5
6	1015	Catalina Sky	28'4"	=(1+D$4)*Fleet!$H6	=(1+E$4)*Fleet!$H6	=(1+F$4)*Fleet!$I6	=(1+G$4)*Fleet!$I6
7	1146	Hunter Ray	33'6"	=(1+D$4)*Fleet!$H7	=(1+E$4)*Fleet!$H7	=(1+F$4)*Fleet!$I7	=(1+G$4)*Fleet!$I7
8	1150	Capri MKZ	24'8"	=(1+D$4)*Fleet!$H8	=(1+E$4)*Fleet!$H8	=(1+F$4)*Fleet!$I8	=(1+G$4)*Fleet!$I8
9	1152	Capri 22 Mk II	24'8"	=(1+D$4)*Fleet!$H9	=(1+E$4)*Fleet!$H9	=(1+F$4)*Fleet!$I9	=(1+G$4)*Fleet!$I9
10	1164	Capri 22 Mk II	24'8"	=(1+D$4)*Fleet!$H10	=(1+E$4)*Fleet!$H10	=(1+F$4)*Fleet!$I10	=(1+G$4)*Fleet!$I10
11	1168	Hunter 33	33'6"	=(1+D$4)*Fleet!$H11	=(1+E$4)*Fleet!$H11	=(1+F$4)*Fleet!$I11	=(1+G$4)*Fleet!$I11
12	1175	Beneteau 40	39'10"	=(1+D$4)*Fleet!$H12	=(1+E$4)*Fleet!$H12	=(1+F$4)*Fleet!$I12	=(1+G$4)*Fleet!$I12
13	1180	Beneteau 373	36'11"	=(1+D$4)*Fleet!$H13	=(1+E$4)*Fleet!$H13	=(1+F$4)*Fleet!$I13	=(1+G$4)*Fleet!$I13
14	1185	Hunter Sea	35'6"	=(1+D$4)*Fleet!$H14	=(1+E$4)*Fleet!$H14	=(1+F$4)*Fleet!$I14	=(1+G$4)*Fleet!$I14
15	1190	Beneteau 373	36'11"	=(1+D$4)*Fleet!$H15	=(1+E$4)*Fleet!$H15	=(1+F$4)*Fleet!$I15	=(1+G$4)*Fleet!$I15
16	1200	Beneteau 373	36'11"	=(1+D$4)*Fleet!$H16	=(1+E$4)*Fleet!$H16	=(1+F$4)*Fleet!$I16	=(1+G$4)*Fleet!$I16
17	1205	Beneteau 40	39'10"	=(1+D$4)*Fleet!$H17	=(1+E$4)*Fleet!$H17	=(1+F$4)*Fleet!$I17	=(1+G$4)*Fleet!$I17
18	1225	Hunter Sea	35'6"	=(1+D$4)*Fleet!$H18	=(1+E$4)*Fleet!$H18	=(1+F$4)*Fleet!$I18	=(1+G$4)*Fleet!$I18

Sample CIS-1A-Access Topics –Creating and Using Queries

Chapter Overview

Queries provide a powerful way to find and analyze data in databases. In chapter 1 you learned to use the *Search*, *Sort*, and *Filter* tools to find data. These are good tools, but over time, as the number of records stored in your databases increases, those tools become less helpful. Learning to create and use queries helps you to quickly and easily access your data and manage your databases. This chapter covers the basics of creating a query, adding criteria to a query, using different query options, integrating calculated fields, and creating summary queries.

Student Learning Outcomes (SLOs)

After completing this chapter, you will be able to:

SLO 3.1 Understand queries and use the *Simple Query Wizard* to create and run a query (p. A3-160).
SLO 3.2 Create a query in *Design* view, add fields, and save and run a query (p. A3-161).
SLO 3.3 Add criterion into a query, use comparison operators, and create criteria with wildcards (p. A3-168).
SLO 3.4 Integrate filtering, sorting, and limiting fields and records that display (p. A3-173).
SLO 3.5 Use the *AND* and *OR* operators to include multiple criteria in a query (p. A3-179).
SLO 3.6 Create and use a parameter query (p. A3-184).
SLO 3.7 Build a query that uses a calculated field (p. A3-190).
SLO 3.8 Create and use a summary query using aggregate functions (p. A3-195).
SLO 3.9 Understand and build a crosstab query (p. A3-199).

CIS-1A-Access-Sample Assignment: Project 3-5

San Diego Sailing Club wants to create three queries. To ensure consistency, the starting file is provided for you. Use *Design* view to create, edit, add aggregate functions, and add criteria to a query to find the total dollar value of the rentals for each boat in its fleet. After saving and testing the query, create a second query that uses aggregate functions and a parameter. Finally, create a

query to find which boat types have been rented. **[Student Learning Outcomes covered: 3.2, 3.3, 3.4, 3.5, 3.6, 3.8]**

Skills Covered in This Project

- Create a query using *Design* view.
- Add fields to a query.
- Add criteria to a query.
- Execute a query.
- Save and test a query.
- Save a copy of a query.
- Add a parameter.
- Use aggregate functions.
- Use the *Unique Values* property.

Given Sailboat Fleet Table:

FullDayRentalsByBoatSummaryWithParameter | **SailboatFleet** | SDRentals

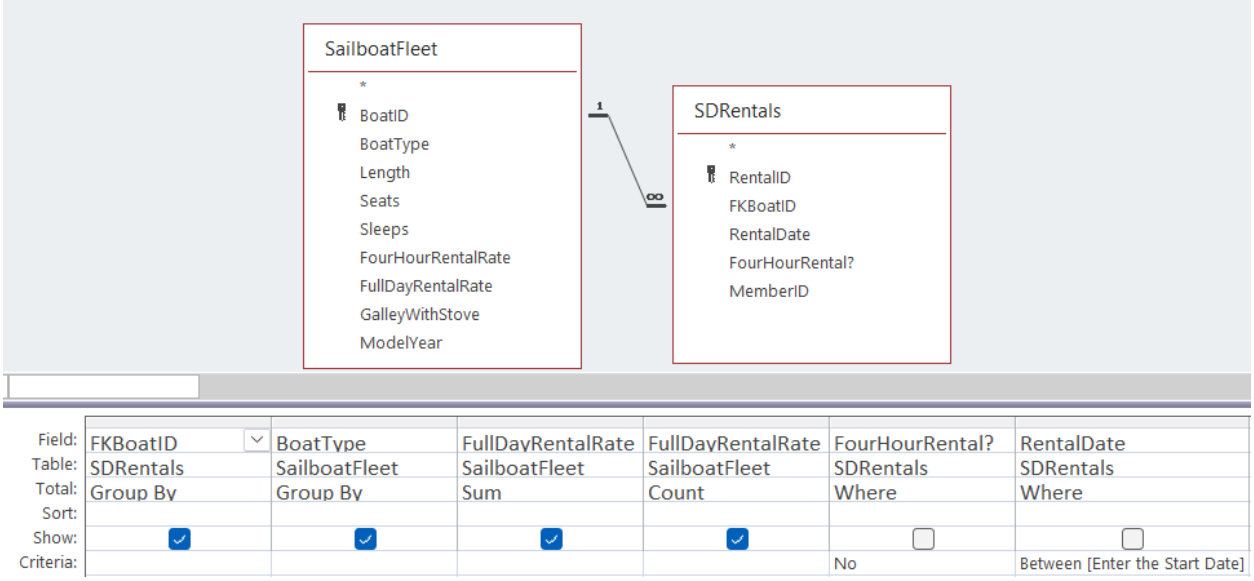
Boat ID	Boat Type	Length	Seats	Sleeps	4 Hr Rate	Full Day Ra	Galley w/ S	Model Year
1010	Catalina 270	28'4"	8	6	$139.00	$179.00	☑	2004
1015	Catalina 270	28'4"	8	6	$139.00	$179.00	☑	2005
1146	Hunter 33	33'6"	10	6	$299.00	$349.00	☑	2006
1150	Capri 22 Mk II	24'8"	6	4	$65.00	$89.00	☐	2007
1152	Capri 22 Mk II	24'8"	6	4	$65.00	$89.00	☐	2007
1164	Capri 22 Mk II	24'8"	6	4	$65.00	$89.00	☐	2010
1168	Hunter 33	33'6"	10	6	$299.00	$349.00	☑	2010
1175	Beneteau 40	39'10"	12	6	$489.00	$529.00	☑	2011
1180	Beneteau 373	36'11"	10	6	$369.00	$409.00	☑	2012
1185	Hunter 36	35'6"	10	6	$349.00	$389.00	☑	2012
1190	Beneteau 373	36'11"	10	6	$369.00	$409.00	☑	2012
1200	Beneteau 373	36'11"	10	6	$369.00	$409.00	☑	2013
1205	Beneteau 40	39'10"	12	6	$489.00	$529.00	☑	2014
1225	Hunter 36	35'6"	10	6	$349.00	$389.00	☑	2014
1254	Hunter 36	35'6"	10	6	$349.00	$389.00	☑	2015
1310	Beneteau 373	36'11"	10	6	$369.00	$409.00	☑	2016
1342	Hunter 33	33'6"	10	6	$299.00	$349.00	☑	2017
1401	Capri 22 Mk II	24'8"	6	4	$65.00	$89.00	☐	2018
1410	Beneteau 40	39'10"	12	6	$489.00	$529.00	☑	2018
1419	Hunter 33	33'6"	10	6	$299.00	$349.00	☑	2018
			0	0	$0.00	$0.00	☐	
Total					**$286.20**	**$325.00**		

Given Sailboat Rentals Table:

FullDayRentalsByBoatSummaryWithParameter | SailboatFleet | **SDRentals**

Rental ID	Boat ID	Rental Date	Four Hour Re	Member Nun
08032	1150	1/15/2020	☑	1122
08033	1168	1/15/2020	☐	1386
08035	1010	1/18/2020	☐	1212
08036	1225	1/23/2020	☐	1197
08037	1146	1/27/2020	☐	1075
08040	1010	2/2/2020	☑	1122
08045	1010	2/9/2020	☐	1386
08046	1164	2/9/2020	☑	1427
08048	1010	2/12/2020	☐	1592
08049	1185	2/14/2020	☐	1283
08050	1152	2/15/2020	☑	1122
08051	1015	2/15/2020	☑	1122
08053	1010	2/17/2020	☐	1003
08054	1010	2/18/2020	☐	1003
08055	1152	2/19/2020	☑	1341
08056	1152	2/20/2020	☐	1283
08060	1015	2/28/2020	☐	1075
08061	1225	2/28/2020	☑	1168
08063	1419	3/2/2020	☑	1075
08064	1401	3/5/2020	☑	1592
08075	1010	3/21/2020	☑	1386
08076	1225	3/22/2020	☐	1059
08077	1225	3/23/2020	☐	1059
08079	1225	3/23/2020	☐	1059
08080	1010	3/23/2020	☑	1494
08081	1152	3/23/2020	☐	1283
08082	1146	3/24/2020	☐	1212
08083	1310	3/25/2020	☐	1075

Sample Solution Query:



Sample Solution Query Results:

FullDayRentalsByBoatSummaryWithParameter

Boat ID	Boat Type	SumOfFullDayRental	CountOfFullDayRentalRate
1010	Catalina 270	$895.00	5
1015	Catalina 270	$179.00	1
1146	Hunter 33	$698.00	2
1152	Capri 22 Mk II	$178.00	2
1168	Hunter 33	$349.00	1
1185	Hunter 36	$389.00	1
1225	Hunter 36	$1,556.00	4
1310	Beneteau 373	$409.00	1

With this resultant data, the business is able to make more informed decisions about future fleet purchases, such as which boat types are most profitable, which specific boats are most and least popular, etc.

Hi Brian,

The RCCD COM faculty met recently to discuss the invitation to provide feedback related to the recent RCCD Associate Degree Requirements Proposal. I have copied the recommendation of the Norco faculty below.

I understand that this will be discussed soon, so if there is anything else we need to share or someone else I should send this to, please let me know. Thanks so much!

Communication Studies Recommendations:

The intent of the changes to Title 5, CA Code of Regulations Relating to the Associate Degree Requirements was to align with AB928 (See: https://www.asccc.org/resolutions/comprehensive-title-5-revision-align-associate-degree-general-education-ab-928-required & https://www.asccc.org/resolutions/support-revised-title-5-associate-degree-requirements).
A significant change to student requirements as a result of AB928 is the addition of the oral communication requirement that was formerly only a CSU requirement and is now a Cal-GETC requirement effective Fall 2025.

Based on this significant change, the Communication Studies District Discipline recommends the following for the RCCD Associate-Degree Requirements Proposal currently being vetted.

In Area 1, consider splitting 1B into 1B and 1C

1B. Oral Communication and to be met by COM 1/1H, COM 9/9H, COM 6

1C. Critical Thinking and to be met by ALR 4, COM 2, COM 3, ENG 1B/1BH, Philosophy 11

Besides the aforementioned intent and significant changes to student requirements, there are at least four other compelling reasons for this change.

1. This change aligns with what students are expected to learn upon graduation encapsulated in our four RCCD GenEd Learning Outcomes.
2. Per the changes in the Title 5 Language, Category 1 has a minimum of 6 units; it does not exclude Category 1 from requiring 3 courses or 9+ units.
3. Per the changes in the Title 5 Language, Oral Communication Skills AND Critical Thinking are required; not either/or. The current proposal of combining the above 1B/1C into one as 1B only makes the requirement read as Oral Communication Sills OR Critical Thinking, not both.
4. Per the changes in the Title 5 Language, the 21 units (up from 18 to accommodate for the addition of Ethnic Studies) is a minimum and still allows for 18 units of electives. Adding Oral Communication as a requirement (vs. an elective) supports the intent of the changes to the Title 5 Language aligned with AB928 and the addition of the Oral Communication requirement.

Thanks again for the invitation to provide feedback.

Respectfully,

Sara Nafzgar
Associate Professor, Communication Studies
Norco College
2001 Third St. Norco, CA 92860-2600
Office: PORT A107

To: Curriculum Committees of RCCD

From: Communication Studies Faculty

RE: RCCD Associate Degree Requirements Proposal aligned with Title 5 Changes

Thank you for the consideration and opening up discussion for such major changes that can impact our students. Their success is the center of our discussion.

The intent of the changes to Title 5, CA Code of Regulations Relating to the Associate Degree Requirements was to align with AB928 (See: https://www.asccc.org/resolutions/comprehensive-title-5-revision-align-associate-degree-general-education-ab-928-required & https://www.asccc.org/resolutions/support-revised-title-5-associate-degree-requirements).

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2. Per the changes in the Title 5 Language, Category 1 has a minimum of 6 units; it does not exclude Category 1 from requiring 3 courses or 9+ units.
3. Per the changes in the Title 5 Language, Oral Communication Skills AND Critical Thinking are required; not either/or. The current proposal of combining the above 1B/1C into one as 1B only makes the requirement read as Oral Communication Sills OR Critical Thinking, not both.
4. Per the changes in the Title 5 Language, the 21 units (up from 18 to accommodate for the addition of Ethnic Studies) is a minimum and still allows for 18 units of electives. Adding Oral Communication as a requirement (vs. an elective) supports the intent of the changes to the Title 5 Language aligned with AB928 and the addition of the Oral Communication requirement.

[EXTERNAL SENDER] RE: CCC AOs--Title 5 Survey Results are here!

Quinn, Bob <bquinn@CCCCO.edu>

Gibbons-Anderson, Joan
Tue 12/5/2023 3:08 PM

Hi there, to answer your question I went back to Rachel, who published the survey…

I didn't include that question because I was trying to address things that have never been in Title 5 but that many schools (I believe) have because they meet current CSU GE/graduation (American Institutions and Lifelong Learning). My questions were focused on what schools have "extra" out of a concern for overall units required for a local degree.

Technically, oral communication and critical thinking *are* included in Title 5, just under one area (1B). So I didn't think to ask which schools are doing those separately, although I know that Skyline separates them out.

There was a survey question (7) that asked: "Does your college have any other GE Area or Graduation Requirement not listed above and not required by Title 5? If yes, please share details." Those responses include answers about the Oral Communication/Critical Thinking, attached as a PDF in the original email.

As you know, although AB 928 did not mandate the addition of Oral Communication, the CSU/UC compromise included Oral Communication. Since it's always been listed on CSU GE and on IGETC (as CSU only), I think AOs recognize it as an addition for UC only, if that makes sense. We already consider the Oral Comm as part of our patterns, and the former Title 5 Communication and Analytical Thinking is migrating over to 1B, Oral Communication and Critical Thinking, though the Quantitative Reasoning (analytical) courses are moving to Area 2.

Finally, throughout the local and Cal-GETC patterns, there is alignment without mirroring. Area 1A and 1B for Title 5 are Area 1A, 1B, and 1C for Cal-GETC (6 units vs 9 units); Area 3 for Title 5 is Area 3A and 3B for Cal-GETC (3 units vs 6 units); Area 5 for Title 5 is Area 5A, 5B, and 5C for Cal-GETC (3 units vs 7 units); even Area 4, which doesn't add letters, is a 3-unit requirement for Title 5 and a 6-unit requirement for Cal-GETC.

From: Gibbons-Anderson, Joan <Joan.Gibbons-Anderson@rcc.edu>
Sent: Tuesday, December 5, 2023 7:45 AM
To: Quinn, Bob <bquinn@CCCCO.edu>
Subject: Re: CCC AOs--Title 5 Survey Results are here!

[External Email: Do not click any links or open attachments if you do not trust the sender and know the content is safe]

Yes - very helpful!

Interesting to me that the question was not asked about requiring all three of these: composition, oral com, and critical thinking - category 1 of the new Title 5 language. I wonder how many colleges require all three rather than just two of these. I say this especially considering AB928 has just added Oral COM as a requirement (in addition to composition and critical thinking).

Any insights??

Joanie Gibbons-Anderson, Ph.D.
Professor, Communication Studies
joan.gibbons-anderson@rcc.edu
951-222-8952

From: Quinn, Bob <bquinn@CCCCO.edu>
Sent: Tuesday, December 5, 2023 7:26 AM
To: Gibbons-Anderson, Joan <Joan.Gibbons-Anderson@rcc.edu>
Subject: [EXTERNAL SENDER] FW: CCC AOs--Title 5 Survey Results are here!

You may find some interest in this.

Bob

From: Rachel Cohen <rcohen@ccsf.edu>
Sent: Friday, December 1, 2023 5:28 PM
To: ciac@groups.csuchico.edu <ciac@groups.csuchico.edu> <ciac@groups.csuchico.edu>

<ciac@groups.csuchico.edu>
Subject: [ciac] CCC AOs--Title 5 Survey Results are here!

[External Email: Do not click any links or open attachments if you do not trust the sender and know the content is safe]

Hi everyone!

At long last, here are the survey results about the new Title 5 Regulations. We had 60 responses. Keeping in mind that we have a number of multi-college districts that responded as a group or on behalf of their district, I think we got a pretty good response.

By the way, since I created the survey, CCSF made our decisions about what we're going to do: we are moving our U.S. History and Government GE Area to a Graduation Requirement. We are also migrating our Health Knowledge and Physical Activity GE requirement to a Graduation Requirement and condensing it into a one-course rather than a two-course requirement.

Those two new grad requirements have waiver opportunities and will run on a 2-year pilot. I am attaching the resolution if anyone is interested. It passed through Curriculum Committee the day before Thanksgiving and endorsed by our Academic Senate this week. Our Resolution is attached in case you're interested.

This email has a number of attachments:

1. screenshots of the survey's quantitative questions (yes/no/other)
2. longer answer questions and responses
3. An unfiltered Excel sheet of all the responses for those of you who like to play with that kind of stuff
4. A copy of CCSF's newly passed Resolution on our GE Pattern.

Have a great weekend!

Rachel

Rachel Cohen

Articulation Officer

City College of San Francisco

50 Frida Kahlo Way

Cloud 308F

Mailbox Cloud 308

~~(415) 239-3583~~ (working remotely due to Covid-19)

Pronouns: she/her

"Seek justice, love mercy, walk humbly with God" --Micah 6:8

Colleges with different application of Title 5 – Current

https://missioncollege.edu/depts/articulation/documents/ge-aa-reqs.pdf

Mission College already requires Oral Communication

https://www.mtsac.edu/counseling/ge-sheets/aa-as-ge-2023-24.html

Mt. Sac already requires Oral Communication

https://craftonhills.smartcatalogiq.com/en/2023-2024/catalog/section-v-what-are-your-options/general-education/chc-ge/

Crafton Hills separates out Oral Com & Critical Thinking

https://bakersfield.elumenapp.com/catalog/2023-2024/aageneraleducationpattern2023-2024

Bakersfield College separate out Oral Com, Writing & Critical Thinking

Dear Members of the RCCD District Academic Standards Committee and District Curriculum Committee:

Please accept the following proposal regarding RCCD Associate Degree GE Requirements on behalf of the History faculty.

One of the major changes that will impact the field of history as we attempt to align with the changes to Title 5 because of AB 928 is the reduction of 3 units from the Social and Behavioral Sciences requirement from the current 6 units to 3 (3-5) units. This reduction is in part due to the inclusion/addition of the Ethnic Studies requirement – which we support. In the current RCCD GE Plan, we require 3 units as part of the American Institutions (B1) which can be fulfilled by completing one course in ETS, HIS, or POL AND 3 units in area B2 from selection of Social and Behavioral Science courses. As historian Peter N. Stearns argues, "A rationale for studying history today must acknowledge both the serious challenges to the discipline and the dynamic changes within the discipline that have developed over the past quarter century…Experience in handling varied data, building critical thinking, enhancing the capacity to understand change remain our building blocks." These skills are important regardless of a student's major or career choice. History has been at the core of GE requirements since the beginning.

If RCCD decides to strictly align with the new guidelines, this could have a negative impact on the History course offerings. The History course offerings would be in greater "competition" with other fields such as Political Science, Economics, Anthropology, etc.

Based on the changes, the History Discipline faculty from the three colleges propose the following:

1.) RCCD continue to require the American Institutions (3 units) which includes at least 9 History course options. [Historically known as "education for citizenship."]

OR

2.) If we do not continue to require students complete the American Institutions, RCCD consider including all appropriate History courses into both the Social and Behavioral Sciences area AND the Humanities. [Currently, only History 1, History 2, and 2H are included in the Humanities.] Upon discussions with the college Articulation Officers and the History discipline faculty, we believe that including History courses in both areas benefits students. Some institutions place History in the Humanities while others place it in the Social & Behavioral Sciences. This is an ongoing debate in the field. Many faculty are concerned about the diminishing opportunities for students to explore and have choice in courses they take.

   Our specific recommendations are below:

   Area 3. Arts & Humanities (3-5 units) should include History 1, 2/2H, 6/6H, 7/7H, 11, 12, 14,15, 16, 17, 18, 19, 25, 26, 28, 29, 31, 32, 33, 34, 35, 38, 42, 44, 60, 61.

   Area 4. Social And Behavioral Sciences (3 units) should include History 1, 2/2H, 6/6H, 7/7H, 11, 12, 14, 15, 16, 17, 18, 19, 25, 26, 28, 29, 31, 32, 33, 34, 35, 38, 42, 44, 60, 61.

   - Please see the linked articles by Norm Jones and Peter N. Stearns from *Perspectives on History,* the news magazine of the American Historical Association:

https://www.historians.org/research-and-publications/perspectives-on-history/january-2021/core-of-the-matter-the-complex-roles-of-history-courses-in-general-education#:~:text=There%20is%20seldom%20an%20institutional%20distinction%20made%20between,other%20subjects%20confusingly%20lumped%20in%20the%20human%20sciences and https://www.historians.org/research-and-publications/perspectives-on-history/september-2020/why-study-history-revisited .

Math Proposal

Merrill, Valerie <Valerie.Merrill@rcc.edu>
Tue 2/27/2024 1:40 PM
To:Douglass, Kelly <Kelly.Douglass@rcc.edu>

3 attachments (764 KB)
121123 DCC Chair email on Gen Ed Plan Revision Timeline.pdf; bgccc-associate-degree-final-reg-text-a11y (1) (1).pdf; TECHREV.Title 5 RCCD GE Updates11.16.23 (1).pdf;

Hello Kelly,

The RCCD Math Departments voted to exclude the following courses for the updated GE requirements for Area 2

(2) Mathematical Concepts and Quantitative Reasoning (minimum of 3 semester / 4 quarter units). Courses fulfilling this requirement must be at least college-level and may include mathematics or quantitative reasoning courses, including logic, statistics, computer languages, and related disciplines.

RCC voted to exclude:
CIS 14A, CSC 14A, CIS 18A, CSC 18A, CIS 30A
Vote held on 2/27/24 (minutes are available if required)

NC wishes to exclude:
CIS 14A, CSC 8, and CSC 14A.
Discussion held on November 28 (minutes are available if required)

MVC does not support any of the proposed changes but was not given time to discuss or vote.

It was felt that the courses listed above did not support the requirement of college-level Quantitative Reasoning as described in Area 2 of the Title V document provided. The CORs for all of the proposed courses in the new GE Ed Plan were provided by CIS faculty with the objectives, topics, and materials highlighted to show the areas in each course that dealt specifically with Quantitative Reasoning within the area of Computer Science and/or Programming. These were then reviewed by the faculty at all three colleges. For the courses not listed above, the Mathematics faculty agreed with the conclusion that the material was sufficient to meet the Area 2 requirements laid out by the revised Title V document.

Please let me know if you have any further questions or if you wish to discuss further any of the recommendations provided above. Thank you!

Mrs. Valerie Merrill (She/Her)
Associate Professor / High School Liaison / AB 705 Coordinator
Mathematics Department
Riverside City College

Medina, Bryan

From: Douglass, Kelly
Sent: Tuesday, February 27, 2024 7:57 PM
To: Medina, Bryan
Cc: Pfeifle, Ann
Subject: Fwd: AA/AS GE Requirements

Additional support doc from math
KD

Sent from my iPhone

Begin forwarded message:

> **From:** "Merrill, Valerie" <Valerie.Merrill@rcc.edu>
> **Date:** February 27, 2024 at 7:52:56 PM PST
> **To:** "Douglass, Kelly" <Kelly.Douglass@rcc.edu>, "Pfeifle, Ann" <Ann.Pfeifle@mvc.edu>
> **Cc:** "Drake, Sean" <Sean.Drake@mvc.edu>, "Brown, Amanda" <Amanda.Brown@rcc.edu>, "Mulari, Jeffrey" <Jeffrey.Mulari@norcocollege.edu>, "Mills, Susan" <Susan.Mills@rccd.edu>
> **Subject: AA/AS GE Requirements**
>
> Hello Kelly and Ann,
>
> I apologize for not understanding that for our proposals today that you wanted the rationale and explanation behind the proposal. With less than an hour to draft and send our proposal I just sent what we voted on but did not have the time to be able to document or express the sentiments, rationale, or discussions held within the department. Here is our rationale and official write up from the discussion:
>
> RCC Math Department met during college hour on Tuesday, February 27th to discuss the proposed courses to be included in Area 2: Mathematical Concepts and Quantitative Reasoning RCCD GE Requirements 2024-2025. All documents including CORs were sent to all faculty in advance of the meeting in order to allow ample time to review, research, and determine the proper proposal going forward. This included documentation on each COR by CIS/CSC faculty as to the justifications for inclusions of each course. It was decided in a unanimous vote at RCC that CIS 5, 7, 17A, 70A, CSC 5, 7, 8, 17A, PHI 32, PSY 48, 50, SOC 48, 50 and MAT 1A/AH, 1B, 1C, 2, 3, 5, 9, 10, 11, 12/12H, 23, 25, 26, 32, 36, 70A, 70B all meet the Area 2 Mathematical Concepts and Quantitative Reasoning courses described by the updated Title V requirements as at least college-level and including mathematics or quantitative reasoning courses, including logic statistics, computer languages, and related disciplines. It was also unanimously decided that CIS 14A, 18A, 30A and CSC 14A, 18A did NOT meet the above criteria. Below is the rationale as discussed in emails and in the department meeting.
>
> Area 2 was created by combining the courses found in the current GE Education Plan under Math Competency and Area D2: Communication and Analytical Thinking. It is the position of the math faculty at RCC that these areas are not equivalent to each other. Area 2 was

specifically described in Title V as Mathematical Concepts and Quantitative Reasoning. It was further stated that these courses may include **either** mathematics **or** quantitative reasoning courses and that these mathematics or quantitative reasoning courses **could include** disciplines **such as** logic, statistics, and computer languages. The new Title V document was very clear that the courses from all of these disciplines were not automatically to be included, but instead, those that were considered to be **either mathematics or quantitative reasoning** only were to be included. This is where the blanket inclusion of courses previously listed under Communication and Analytical Thinking is flawed. As such the RCC Math Department looked at each COR for all the courses now listed in the proposed Area 2: Mathematics Concepts and Quantitative Reasoning in order to provide our proposals. Although all of these courses do satisfy the previous category of Communication or Analytical Thinking, as this is defined as relating to or using analysis or logical reasoning to analyze a problem and find a solution by exploring cause and effect relationships between two or more factors, it is our proposal that CIS 14A, 18A, 30A and CSC 14A, 18A do not meet the requirements of the new Area 2 : Mathematical Concepts and Quantitative Reasoning, as this is defined as the application of basic math skills such as Algebra to the analysis and interpretation of real world quantitative information in the context of a discipline. Simply put, the previous category of Analytical Thinking is based on observations and logic whereas Quantitative Reasoning is based on numerical and mathematical axioms. Below is the individual reasoning that was presented and discussed as to why each of the excluded courses do not meet the Title V language of Mathematical Concepts and Quantitative Reasoning courses of at least college-level including mathematics or quantitative reasoning courses.

CIS 14A / CSC 14A : Web Programming Java Script

Course Objective - only one course objective refers to mathematics, but is not at what is considered to be college level quantitative reasoning and is instead analytical in nature
2. Write effective scripts using JavaScript core objects, properties, and methods, including the Array, Math, String, and Date objects.

Course Content - the course content refers to math and quantitative reasoning topics but only as reference material not as actual computation or manipulation
c. Functions (when to use them and how to use them)

d. Arrays (declaring, populating, use with loops, array methods)

a. Control Structures - decisions using if and switch and loops using while and for

b. Functions - when to use them and how to use them

c. Arrays - declaring, populating, use with loops, array methods

CIS 18A / CSC 18A : Java Programming: Objects

No Course Objectives were identified as Mathematical Concepts or Quantitative Reasoning

Course Content - Although one topic dealt with if-then logic statements none of the other content listed satisfied the area of math or quantitative reasoning

2. Control Structures I

a. Algorithms, primitive data types

b. If-then-Else redirection

c. While loops

3. Control Structures II

5. Arrays in Java

1. Utilize Control Structures

3. Utilize Arrays

a. Basic array operations

b. Single dimensional arrays

c. Two dimensional arrays

CIS 30A : Introduction to Python Programming

No Course Objectives were identified as Mathematical Concepts or Quantitative Reasoning

Course Content - The Mathematical Concepts and Quantitative Reasoning Identified was not at college-level. Although this is clearly a college-level course in terms of Python programming, it does not satisfy the Title V definition of Area 2

4. Variables

a. Mutation and state

b. Tags, cattle tags

c. Rebinding variables

d. Naming variables

5. Numbers

a. Arithmetic operations

b. Exponent - Power operator

c. Mathematical functions

d. Order of operations

e. Boolean

f. Built-in constants

9. Methods

a. endswith

b. find

c. format

d. join

e. lower

f. startswith

g. upper

10. Conditionals and Iteration

a. if statements

b. else statements

c. chained conditionals

d. nested conditionals

e. for loop

f. while statement

g. Break

12. Functions

a. Invoking functions

b. Scope

c. Parameters

CIS/CSC faculty provided the CORs with emphasis on areas that they felt justified each course to be included in Area 2 : Mathematical Concepts and Quantitative Reasoning. During the discussion, multiple math faculty provided first-hand knowledge of these courses as they themselves either took the courses, taught the courses, or utilized the courses in real life applications. It was from the expertise of faculty in CIS, CSC, and MAT that the above recommendations were reached.

Thank you for your consideration in this matter.

As an addendum, it was noted that CIS 1A / CSC 1A : Introduction to Computer Information Systems was proposed to be included in Area 2 in today's Curriculum Meeting. This was not voted on by RCC Math Faculty, but it can be noted that that from the COR it does not include any Mathematical Concepts or Quantitative Reasoning in either the Course Objectives or Content and thus does not appear to qualify as a course to be included in Area 2 of the proposed GE Ed Plan. If a vote is required for this course it can be done at the next department meeting on March 12.

Mrs. Valerie Merrill (She/Her)
Associate Professor / High School Liaison / AB 705 Coordinator
Mathematics Department
Riverside City College

RCCD | RIVERSIDE COMMUNITY COLLEGE DISTRICT
MORENO VALLEY COLLEGE | NORCO COLLEGE | RIVERSIDE CITY COLLEGE

Proposal Vote Report

Complete the form below and attach it with the corresponding minutes to your curriculum proposals in Meta.

Originator Name:

Proposal Type: Choose an item.

Proposal Details:

[For all courses covered by this form, include subject, course number. For all programs, include program title.]

District Discipline Vote

College	N/A*	Yes	No	Date	Method
Moreno Valley	☐	Enter value.	Enter value.	Enter Date	Choose method.
Norco	☐	Enter value.	Enter value.	Enter Date	Choose method.
Riverside	☐	Enter value.	Enter value.	Enter date	Choose method.

Originating Department Vote

College	N/A*	Yes	No	Date	Method
Moreno Valley	☐	Enter value.	Enter value.	Enter Date	Choose method.
Norco	☐	Enter value.	Enter value.	Enter Date	Choose method.
Riverside	☐	Enter value.	Enter value.	Enter date	Choose method.

Honors Council Vote

For new honors courses only.
Please also attach evidence of honors council vote of approval to your proposal in Meta.

College	N/A*	Yes	No	Date	Method
Moreno Valley	☐	Enter value.	Enter value.	Enter Date	Choose method.
Norco	☐	Enter value.	Enter value.	Enter Date	Choose method.
Riverside	☐	Enter value.	Enter value.	Enter date	Choose method.

**Select N/A if a vote from that college is not applicable to the proposal.*