### SUPPLY CHAIN MANAGEMENT AND ANALYTICS (SCMA)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Format</th>
<th>Credit Hours</th>
<th>Max credits per semester</th>
<th>Max credits per degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCMA 191</td>
<td>Special Topics in Supply Chain Management</td>
<td>Variety of topics on the undergraduate level.</td>
<td>SCMA 331, SCMA 435, SCMA 447, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459</td>
<td>LEC</td>
<td>1-3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 250</td>
<td>Spreadsheet Analytics</td>
<td>Organization, analysis and evaluation of data using advanced features of Microsoft Office to solve business problems.</td>
<td>SCMA 250</td>
<td>LAB</td>
<td>SCMA 350</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SCMA 331</td>
<td>Operations and Supply Chain Management</td>
<td>Analytical management techniques for: ascertaining demand for the organization's goods and services; justifying and acquiring the necessary resources; and planning and controlling the transformation of resources into goods and services. Application in both large and small organizations, private and public enterprise, service, and manufacturing organizations.</td>
<td>SCMA 331, SCMA 432, SCMA 436, SCMA 437, SCMA 350, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459</td>
<td>LEC</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>SCMA 335</td>
<td>Supply Chain Decision Making Models</td>
<td>Development of optimization models for applications in transportation and distribution networks, operations scheduling, and inventory planning.</td>
<td>SCMA 335</td>
<td>LEC</td>
<td>SCMA 432, SCMA 436, SCMA 439, SCMA 447, SCMA 451, SCMA 474</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Notes

- SCMA 250 can be used to replace BSAD 50; Co-requisite or prerequisite: ECON 215.
- Cannot be taken Pass/No Pass.
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- Cannot be taken Pass/No Pass.
- SCMA 331, SCMA 435, SCMA 447, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
- SCMA 335, SCMA 432, SCMA 436, SCMA 437, SCMA 439, SCMA 447, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
- SCMA 432, SCMA 436, SCMA 439, SCMA 447, SCMA 451, SCMA 474.
- SCMA 346, MRKT 346.
- MRKT 341.
- Basic concepts used in analyzing marketing channels, identifies the issues of designing sound channels, the issues of managing them effectively, and evaluating their performance.
- 3
- 3
- 3
- 3
- SCMA 439, SCMA 474.
- SCMA 350.
- SCMA 350, SCMA 437, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
- COB Honors students only. Sophomore; SCMA 250; 2.5 GPA; Business Qualified (MATH 104 or MATH 106 or MATH 107 or MATH 208; BSAD 220; ACCT 201 and ACCT 202; ECON 211 and ECON 212; ECON 215 or equivalent). Prereqs differ for RAIES, ACTS, and ABUS majors - see catalog.
- Cannot be taken Pass/No Pass.
- SCMA 350, SCMA 437, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
- SCMA 350, SCMA 437, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
- SCMA 439, SCMA 474.
- SCMA 350, SCMA 437, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
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- SCMA 350, SCMA 437, SCMA 450, SCMA 451, SCMA 452, SCMA 454, SCMA 458, SCMA 459.
SCMA 396 Independent Study  
Prerequisites: Junior standing; permission of supervising instructor and department chair  
Description: Special research project or reading program.  
Credit Hours: 1-6  
Min credits per semester: 1  
Max credits per semester: 6  
Max credits per degree: 12  
Format: IND  

SCMA 396H Independent Study  
Prerequisites: Good standing in the University Honors Program or by invitation; permission of instructor and department chair  
Description: Special research project or reading program.  
Credit Hours: 3-6  
Min credits per semester: 3  
Max credits per semester: 6  
Max credits per degree: 12  
Format: IND  

SCMA 431 Enterprise Management Systems  
Prerequisites: SCMA 331; 2.5 GPA  
Description: Analytical approach to the design, planning, and control of operations management systems, including domestic and international, manufacturing and service operations.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 432 Supply Chain Planning and Control Systems  
Prerequisites: SCMA 331; SCMA 335; MRKT 341; 2.5 GPA  
Description: Forecasting and planning for capacity management, materials management, utilization of facilities, managing and scheduling inventory, scheduling people and equipment, tracking people, orders, and equipment to ensure the accommodation of customer needs while maintaining effective and efficient processes.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 434 Lean Supply Chain Operations  
Prerequisites: SCMA 331; 2.5 GPA  
Description: Focus on the improvement of supply chain operations through the application of lean management principles. Topics include just-in-time, six-sigma, theory of constraints, and associated tools and applications.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 436 Project Management  
Prerequisites: SCMA 331; SCMA 335; 2.5 GPA  
Description: Planning and managing projects including project initiating and bidding, planning, budgeting and cost estimation, scheduling, managing risks, and final implementation.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 437 Supply Chain Risk Management  
Prerequisites: SCMA 331; SCMA 350; 2.5 GPA  
Description: Analytical and simulation models for decision making in functional areas such as finance, accounting, marketing, personnel, operations, and inventory. Construction of decision models for practical applications. Emphasis on analyzing alternatives and implementing solutions that result in increased productivity.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 439 Global Sourcing and Distribution  
Prerequisites: SCMA 331; SCMA 335; MRKT 346; 2.5 GPA  
Description: Sourcing strategies, concepts and tools in the context of integrated supply chains. Specific issues include make or buy decisions, supplier evaluation and selection, total cost of ownership, contracts and legal terms, negotiation, and purchasing ethics. Discussion of supply chains in the context of international trade. Purchasing options, to include benefits and risks in outsourcing. Information technology for control and coordination in international supply chains.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 444 Supply Chain Logistics Management  
Crosslisted with: MRKT 444  
Prerequisites: MRKT 341 and SCMA 331  
Description: Examination of physical distribution activities in the marketing mix from the viewpoints of both providers and users of components of logistics systems. Logistics problems of concern to the marketing manager include time and place utility concepts, spatial relationships of markets, channel design, transportation modes, and inventory management.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

SCMA 447 Supply Chain Technology  
Prerequisites: SCMA 331; SCMA 335; MRKT 341; 2.5 GPA  
Description: Fundamentals of technology to include radio frequency identification systems (RFID). Description of physical characteristics, potential to support supply chain management, and implications on inventory management within supply chains.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC
SCMA 450 Data Modeling and Computing  
**Prerequisites:** SCMA 350  
**Notes:** The course is designed for students interested in Business Analytics in all business majors, as well as students who are primarily interested in the applications of computational modeling and statistical programming in fields such as engineering, basic sciences, sociology, psychology.

**Description:** Introduction to advanced data and statistical modeling techniques for business analytics applications. Introduces statistical computing tools and techniques using the R statistical programming language. Demonstrates the role of data analytics and modeling techniques in business applications. Bayesian-thinking concepts will also be studied in relation to decision-making under uncertainty.

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  
**Offered:** FALL

SCMA 451 Introduction to Predictive Analytics  
**Prerequisites:** SCMA 335; SCMA 350; 2.5 GPA  
**Description:** This course expands the basic statistical and analytics tools for developing understanding of advanced methods for data analysis and modeling, business strategy, information technology in order to develop automated structures to support decision making. The course is intended to provide tools for business applications working with data, databases and reports from analytic models. It covers fundamentals of data analysis and inferential statistics as well as predictive modeling techniques; including linear regression, logistic regression, structural equation modeling, decision trees, artificial neural networks and support vector machines. The course is intended for students interested in Business Analytics in all Business Majors as well as students who are primarily interested in the applications of data mining from fields such as engineering, basic sciences, sociology, psychology etc.

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

SCMA 452 Database Organization and Management  
**Prerequisites:** SCMA 350; 2.5 GPA  
**Description:** Database technology and related human and managerial considerations. Databases from two perspectives: the logical view, as the manager and applications programmer see and use the organization’s data; and the physical view, as the systems software programmers and database manager view the data. Theory on database organization and the practical applications of databases.

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

SCMA 454 Information Systems Analysis and Design  
**Prerequisites:** SCMA 350; 2.5 GPA  
**Description:** Methods and methodologies used in systems analysis, design, and implementation. Decision-making process: systems development life cycles, requirement analysis, logical and/or conceptual design, and basic database concepts.

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

SCMA 458 Electronic Business  
**Prerequisites:** SCMA 350; 2.5 GPA  

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

SCMA 459 Global Information Systems  
**Prerequisites:** SCMA 350; 2.5 GPA  
**Description:** The worldwide political and economic changes in the last decade that have propelled city, state, country governments, and corporations to expand business globally and enter into new markets. Information technology (IT) as a key role in the globalization of businesses. The necessary concepts and ideas to understand the issues in the global or international use of information technology. IT environments around the world, national infrastructures and regulatory regimes, global IT applications, global IS development strategies, global management support systems, and global IT management strategies.

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

SCMA 474 Strategic Supply Chain Management  
**Prerequisites:** Senior Standing; Open to SCMA Majors Only; SCMA 331; SCMA 350; MRKT 346; 2.5 GPA  
**Description:** The focus of this course is on bringing together the concepts and theories of Supply Chain Management through the application in real world settings. Students will emulate decision making through simulated applications and will work with local/regional organizations to make improvements or explore opportunities enhancing supply chain applications.

**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

SCMA 499H Honors Thesis  
**Prerequisites:** Good standing in the University Honors Program or by invitation, and permission  
**Description:** Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**Credit Hours:** 3-6  
**Min credits per semester:** 3  
**Max credits per semester:** 6  
**Max credits per degree:** 6  
**Format:** LEC