



QUEST

CURRICULUM AND COURSEWORK

Information for Cohorts 29 through 32

**This list is current as of Fall 2020 and is subject to change. Students are welcome to nominate other courses to be added to the list; the QUEST Curriculum Review Committee will review and approve nominations. To nominate a course, please contact Dr. Pamela Armstrong at parmstro@umd.edu.*

***If interested in viewing any of the syllabi for the courses, please contact Dr. Pamela Armstrong at parmstro@umd.edu.*

QUEST's 5 Course Curriculum

Three Required Courses

These courses are required for all QUEST students and are cohort-based courses

- **BMGT/ENES 190H:** Introduction to Design and Quality (4 credits)
- **BMGT/ENES 390H:** Designing Innovative Systems (3 credits)
- **BMGT/ENES 490H:** QUEST Capstone Professional Practicum (4 credits)

Two Elective Courses*

QUEST students are required to take at least one applied data analysis course before taking BMGT/ENES 490H and can select from the "QUEST-Only" or "Regular" electives to fulfill the second requirement during the semester of their choice.

| Elective #1: Applied Data Analysis Elective (to be taken prior to BMGT/ENES 490H) | | |
|------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------|
| Course Title | Course Name | Prerequisites/Restrictions |
| BMGT430 | Linear Statistical Models in Business | BMGT 231 or BMGT 230 or permission of DOIT |
| BMGT431 | Data Analytics | BMGT 430; restricted to OMBA majors and BA minors |
| BMGT438A/ ENES 489A | Applied Quantitative Analysis (QUEST-only) | |
| BMGT 452 | Marketing Research Methods | BMGT 350 and BMGT 230 |
| CMSC 320 | Introduction to Data Science | Permission of CS dept |
| ECON 422 | Econometrics I | Econ majors only |
| ENME 440 | Applied Machine Learning for Engineering and Design | ENME392 or permission of MechE dept |
| ENME 466 | Lean Six Sigma | ENME 392, BMGT 230, STAT 400 or similar |

| Elective #2: QUEST-only electives | | |
|----------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------|
| Course Title | Course Name | Prerequisites/Restrictions |
| BMGT/ENES 397 | Mentoring Multidisciplinary Teams | BMGT/ENES 190H; Application required in spring of prior year |
| BMGT 408C | Quality Web Development in Business | Only offered in fall semesters |
| BMGT 438G/ ENES 489Q | Design and Innovation in Silicon Valley | Not offered Spring 2021 |
| BMGT 438Q/ BMGT 438K/ BMGT 438L/ BMGT438R | Doing Business in Asia | Not offered Winter 2021 |
| BMGT 438M/ BMGT 4690 | Leading Innovation and Design in a Cross-Cultural Setting (Spain) | Not offered Winter 2021 |
| BMGT/ENES 491 | Scoping Experiential Learning Projects | BMGT/ENES 190H |
| ARHU390H | Cross-Cultural Perspectives on Quality | Offered Spring 2021 |

Elective #2: Regular electives

| <u>Course Title</u> | <u>Course Name</u> | <u>Prerequisites/Restrictions</u> |
|----------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| BIOE 485 | Capstone Design I Entrepreneurship, Regulatory Issues, and Ethics | 21 credits in BIOE courses, BIOE major |
| BMGT 332 | Operations Research for Management Decisions | BMGT 231 or BMGT 230 or comparable class; restricted to BMGT and QUEST with 53+ credits |
| BMGT 352 | Customer Centric Innovation | BMGT 350 |
| BMGT 385 | Operations Management | BMGT 385 or ENME 426; restricted to BMGT and QUEST with 53+ credits |
| BMGT 403 | Systems Analysis and Design | BMGT 301 |
| BMGT 434 | Analytics Consulting: Cases and Projects | BMGT 332 and MATH 120/140/220; restricted to BMGT and QUEST with 72+ credits |
| BMGT 452 | Marketing Research Methods | BMGT 350 and BMGT 230 |
| BMGT 485 | Project Management | BMGT 231 or BMGT 230; restricted to BMGT and QUEST with 72+ credits |
| BMGT 487 | Six Sigma Strategy and Methods | |
| BMGT498L | Innovo Consulting Practicum: Transform Learning | Application required in spring of prior year |
| CMSC 320 | Introduction to Data Science | Permission of CS dept |
| CMSC 434 | Introduction to Human-Computer Interaction | Permission of CS dept |
| CMSC 435 | Software Engineering | Permission of CS dept |
| ENAE 481 | Principles of Aircraft Design | Restricted to students in the AHS Helicopter Design Competition and requires permission of the department to enroll |
| ENAE 483 | Principles of Space Systems Design | ENAE 404, ENAE 324, ENAE 362, and ENAE 432; Aerospace major or permission of dept |
| ENCE 320 | Introduction to Project Management | Restricted to ENGR students; permission of ENCE dept |
| ENCE 325 | Introduction to Construction Project Management | Restricted to ENGR, ARCH, and minor students |
| ENEE 408A | Microprocessor-Based Design | ENEE440 or permission of the instructor |
| ENEE 408G | Multimedia Signal Processing | ENEE 420 or 425 |
| ENEE 408R | Electric Bikes | ENEE303, ENEE322, ENEE150 or CMSC216. Electrical or Computer Engineering senior status |
| ENEE 605 | Design and Fabrication of Micro-Electro-Mechanical Systems | |
| ENES 460 | Fundamentals of Technology Start-Up Ventures | Hinman CEOs students |
| ENES 462 | Marketing High-Technology Products and Innovations | Hinman CEOs students |

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|-----------|-----------------------------------------|-------------------------------------------------|
| ENES 489P | Hands-On Systems Engineering Projects | |
| ENES 499 | Senior Projects in Engineering | |
| ENME 371 | Product Engineering and Manufacturing | MechE; ENES 221 and ENME 392 or STAT 400 |
| ENME 421 | Engineering Design Ideation | Completed or enrolled in ENME 371; Jr or higher |
| ENME 426 | Production Management | |
| ENME 464 | Cost Analysis for Engineers | ENME 464 or similar; permission of MechE dept |
| ENME 489Q | Managing for Innovation and Quality | Department permission required |
| ENSE 621 | Systems Concepts, Issues, and Processes | Permission of Institute for Systems Research |