USC Viterbi
School of Engineering

University of Southern California

Academic Programs

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Interim Director, Information Technology Program

New Faculty Orientation
August 2022

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Note: Some of this content originated with Prof. James Moore, previous Vice Dean for Academic Programs

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Academic Programs Overview

Assist with the Academic Mission of the Departments/Programs

- Curriculum
- Accreditation (ABET, WASC)
- Non-Dept. Programs
- Engineering Ed. & UG Co-Curric.
- General Academic Issues
- Academic Integrity
- Evaluation of Teaching
- PhD Committees, Admissions/Fellowships
- Faculty load & instructional budget

Institutional Context

- USC Viterbi undergrads are excellent
- USC Viterbi is the national leader in distance education for grad engineering
- More MS students than any other U.S. school of engineering (ASEE 2018)
- USC and NYU have more international students than any other school
- Try to deliver undergraduate education with full-time personnel
- LA is enormous advantage for USC: economy, industry-experienced faculty

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Curriculum Development & Procedures

- All electronic (since 2014) through *Curriculog* & *Acalog* systems
- Curriculum is probably the most faculty-centered process at USC
  - Viterbi & University have roles, but most important actions in Dept/Program
  - Room for more creativity (concept/delivery) than most faculty realize
- For proposing new/revised courses or programs:
  - Start with your dept. chair and dept. curriculum coordinator
  - Develop syllabi (templates/examples: arr.usc.edu/services/curriculum/resources.html)
    - Detailed scenario (not a contract) but must be well thought-out & complete to persuade committees that students will find no reasonable complaint
    - Goals, textbook, weekly readings/HW, grading practice, boilerplate text
  - Work with department curriculum committee to submit on Curriculog
    - **Deadlines**: 4 Nov 2022 for revisions, 13 Jan 2023 for new courses/programs
    - But **start early** as more than one iteration is common
  - Must discuss with any "Affected Units"
  - Viterbi Academic Programs Coordinator: (new person to be hired)
  - Engrg Curric Cmte (reps fm each dept/program) meets ~biweekly Sept-Feb
  - University level takes ~1mo for courses, ~2mo for new programs/minors
- Special Topics (499/599) must have full syllabi before listed on SoC

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Accreditation

- ABET (Accreditation Board for Engineering and Technology) is the primary accreditation agency for engineering
  - Last visit in October 2015, accredited through Sept. 2022
  - ABET visit during Fall 2021, awaiting the result (any day now…)
  - Next ABET visit will be Fall 2027
    A **lot** of the work is done in the Departments
    - Most departments have an ABET lead (or two)
    - Most faculty must collecting materials to document undergraduate student progress, using assessments of their own course to update on a regular cycle
  - Dean's office helps, coordinates, advises, etc.
- USC overall accredited by WASC (Western Association of Schools and Colleges)
  - Last accreditation visit was in 2020–21

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Viterbi Programs: EiS & ITP

Oversight of (non-department) programs:

- Engineering in Society Program (Director: Steve Bucher)
  - Courses & resources to help students communicate as integral part of their work & professional lives, engineering education, ethics, etc.
  - Student Publications: *Illumin* online magazine, *Conversations in Ethics*

- **Jr/Sr: WRIT 340 *Advanced Writing Communication for Engineers***
- **MS: ENGR 595 *Professional Writing and Communication for Internships***
- **PhD: ENGR 502 *Writing Skills for Engineering Ph.D. Students***
  ENGR 503 *Oral Communication Skills for Engineering Ph.D. Students*

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- Information Technology Program (Director: TBD)
  - courses in web development, new media, 3D animation, security, programming, video game design/programming, graphics, other IT topics
  - No majors; 15 Minors, multiple Specializations, part of 2 Dornsife BA's
  - >80% of ITP students are non-engineers from all across USC campus

Minors:

- **3D Computer Graphics and Modeling**
- **Applied Analytics**
- **Artificial Intelligence Applications**
- **Blockchain**
- **Cloud Computing with DevOps**
- **Computer Programming**
- **Connected Devices & Making**
- **Cybersecurity**
- **Digital Forensics**
- **Enterprise Information Systems**
- **Innovation: the Digital Entrepreneur**
- **Mobile App Development**
- **Technical Game Art**
- **Video Game Production**
- **Video Game Programming**
- **Web Development**

Majors:

- **BA Intelligence & Cyber Operations**
- **BA Data Science**

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Engineering Education & UG Co-Curriculars

- Baum Family Maker Space (Director: Allan Weber)
- Engineering Honors Program (Director: Sandeep Gupta)
- Grand Challenge Scholars Program (Director: Najm Meshkati)
- iPodia Program (Director: Stephen Lu)
- Engineering Freshman Academy (w/Gigi Ragusa & VASE staff)
- Student Design Teams (w/VASE staff & faculty advisors)
- Academic Integrity (w/Steve Bucher)
- Division of Engineering Education (DEE)
  - Department associate chairs / directors of undergraduate studies / or similar
  - Plus other key faculty engaged in aspects of engineering education
- Center for Instruction of Math for Engineering Students (CIMES) (Director: Sati Sadhal)
- Pedagogical Initiatives (w/Prof. Gigi Ragusa)
- Viterbi Advanced Teaching Institute (VATI)

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General Academic Issues

- Grade disputes & Academic Integrity appeals
  - Both procedures are in SCampus (The USC Student Handbook) https://policy.usc.edu/student/scampus/
  - Report suspected violations of academic integrity!
- PhD Program Oversight (in collaboration with Exec. Vice Dean G. Sukhatme)
  - PhD Committee Approval
  - PhD Fellowships
  - PhD Council
- Department instructional budgets (with Timothy Pinkston & Gaurav Sukhatme)
- Coordinate Viterbi faculty teaching General Seminar (GESM), Freshman Seminar (FSEM) classes
  - 19-student general education — if interested (not in first few years), e-mail me with copy to your dept. chair
- Any other academic programs issues

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Academic Integrity

- Student conduct code violations, including those of academic integrity, are serious; sanctions range from a warning to expulsion
  - Most common are: zero on assignment, zero + grade reduction, F in course
- A new process is being defined by the University
  - We expect official details in the next weeks, but a preview:
- Minor violations can be resolved between instructor and student but subsequently reported to central Academic Integrity Office (AIO)
  - ”Minor” is yet to be clearly defined!
  - We Viterbi faculty must decide on typical outcomes for common violations
- Major violations go to AIO
  - Typically will be reviewed by a panel of faculty/staff/students
  - Appeals go to the Vice Provost for Academic Programs
- Please consult your department chair, your department’s student services advisor, or Steve Bucher [EiS] or me.

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How is Teaching Evaluated?

- For annual merit and for promotion
- During AY2018–19, a Viterbi faculty committee developed (and was recommended by the Engineering Faculty Council for adoption):
  - Viterbi's Definition of Teaching Excellence

… teaching excellence is demonstrated through instructional practice which…

- Clearly articulates challenging, academically rigorous, and attainable expectations and learning outcomes.
- Treats students professionally, respectfully, and with integrity.
- Creates an inclusive environment where all students are welcome to engage with course instructors (including TAs) and their peers.
- Provides instruction in the classroom characterized by
  - Content and materials that are clear, organized, and relevant to modern practice.
  - Teaching activities that model and foster critical, analytical, and creative thinking along with real-world problem-solving skills.
- Employs student assessments that are aligned with course content and learning outcomes, and provides feedback to students that encourages their academic growth.
- Fosters a mindset where growth is always possible, and ability is not fixed.
- Utilizes, as applicable, innovative methods and technology to improve teaching, learning, mentoring and assessment.
- Utilizes student and peer feedback as well as scholarly practices to improve and refine content, teaching style, mentoring, and assessments.

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  - Viterbi's Teaching Evaluation Framework
    - Student learning experience outcomes
    - Annual Teaching Record & Portfolio form
    - Faculty may opt in for peer classroom teaching evaluation
- We encourage
  - Formative (non-evaluative) peer observation
  - Participating in workshops/conferences on teaching innovations (matching funds)
  - Engaging in an under-development Viterbi Teaching Institute
- Teaching Excellence is rewarded:
  - Part of the annual faculty evaluation & merit-based raise recommendations
  - Part of the promotion process, particularly for teaching-track faculty
  - Two school-wide teaching awards

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PhD Admissions/Fellowships & Committees

- PhD Admissions: admit those we can fund (or w/documented scholarship)
  - Must be a 4-year funding offer ($38k/12mo; some fellowships $40k/12mo)
  - ~70% of offers are 1yr fellowship + 3yrs assistantship (RA or TA or combo)
  - Typically: ~3000 PhD applicants, admit ~425, enroll ~225
    - Dec 15: PhD student application deadline
      - *Visible on myviterbi.usc.edu → PhD Applicant Viewer*
    - Early Jan: faculty propose fellowship candidates to department
    - Mid/Late Jan: dept. cmte. selects fellowship nominations, submits to Dean's office
    - Late Jan / Early Feb: Dean's office selects & notifies dept. to admit & offer funding
    - Feb–Mar RA/TA funding: dept. cmte. approves, Dean's office approves, dept. offers
- PhD Milestones
  - PhD Screening Procedure (usually Yr 1 or 2; process differs across depts)
  - PhD Qualifying Exam (report research thus far + dissertation proposal)
    - Cmte of 5 USC faculty (T/TT + approved Rsrch faculty; ≥3 dept, ≥1 outside)
  - PhD Dissertation Defense
    - Cmte of 3–5 USC faculty (T/TT + approved Rsrch faculty; ≥2 dept, ≥1 outside)
  - Detailed guidelines: catalogue.usc.edu/content.php?catoid=14&navoid=5059#graduate-degrees

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Advice

- Teach well. USC UG cost is ~$60k/yr tuition + ~$20k housing/food/etc.
  - USC has the largest(?) university-sourced pool of financial aid
- Develop advanced courses in your area of expertise
  - Jr faculty are at the cutting edge
  - T/TT: focus particularly on doctoral students and advanced MS students
  - All new faculty bring a new perspective — that's always good
  - Consider proposing a *499/599/699 special topics course
    - Discuss with your chair; submit a syllabus for approval via dept. staff
- Do your share of undergraduate instruction.
- For tenure-track faculty: build a research group and publish, propose, publish, propose, ...
  - Ask to teach doctoral courses, special topics (499/599) courses

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Questions

- I am glad to answer questions (JohnsonE@usc.edu, 1-0067)

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Curriculum Process (the LONG details)

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Note: Much of this content originated with Prof. James Moore, previous Vice Dean for Academic Programs

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Observations and Advice (Cont.)

- We need to further strengthen our doctoral curricula.
- You are the most important curriculum resource we have.
  - Junior personnel are at the cutting edge: Please capture what you know for the curriculum.
  - Regardless of whether you are junior or senior, you bring a new perspective to our programs. We embrace this.
- You need to establish a research agenda here at USC.
  - This means connecting to doctoral students, so ask to teach doctoral courses.
  - Ask to offer special topics courses.
- Do your share of undergraduate instruction.
- If you are interested in offering a 19 person general education seminar (generally later for junior faculty), please email me and copy your department chair.

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Curriculum Proposals: Resources

- Curriculum approval is a highly pluralized process: It seems everybody and his or her brother or sister is a stakeholder.
- Proposals always start with individuals or small teams.
- See the Office of Academic Records and Registrar website for resources:
  - http://arr.usc.edu/services/curriculum/generalinfo.html is the Curriculum Coordination Office page.
  - http://arr.usc.edu/services/curriculum/submission-timeline.html is a submission timeline.
  - http://arr.usc.edu/services/curriculum/resources.html
    - Syllabus Template.
    - Curriculum Handbook.
    - And More.

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Curriculum Proposals (Cont.): Department

- Syllabi and programs are approved first at the department level, i.e., at the faculty level.
  - This is an offer to the Dean and the Provost to take academic responsibility for the course or program.
    - Every program has a departmental owner.
    - Departments and Schools can collaborate. Joint programs have a single administrative owner, but more than one faculty group can share responsibility for content.
  - A proposed syllabus is a detailed scenario, not a contract.
  - The faculty champion's goal is to use the syllabus to persuade all third parties involved that the proposed course is sufficiently well thought out and well organized that students will find no reasonable opportunity to complain.

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Curriculum Proposals (Cont.)

- Curriculog input is usually a task for the department's curriculum coordinator (DCC), typically a student services staff member.
- Acting on the direction of the Department Chair or appropriate faculty member, the DCC circulates proposals to affected internal and external units.
  - This initial informal step occurs outside Curriculog.
  - This may (likely will) lead to negotiation, which is executed outside Curriculog though phonecalls, emails and meetings to achieve a meeting of the minds.

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Curriculum Proposals (Cont.)

- If another School is involved, the object of the negotiation is typically fiscal, though this will tend to be veiled.
- Concurrence by affected units is documented within Curriculog as a pro forma step once agreement is achieved externally and the DCC submits the proposal.
- This includes units internal to VSOE.
- External units that decline to respond are presumed to favor the proposal, but Curriculog is designed to force a response.
- Other units cannot veto a curriculum proposal, but affected units can force a substantive discussion by not approving a proposal in Curriculog.

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Curriculum Proposals (Cont.): Department to School

- Department forwards the proposal via Curriculog to Dean's Office for discussion by Engineering Curriculum Committee
  - Deadlines to arrive in the Dean's office:
    - **November 4** for revisions to be in the 2023–24 Catalogue (because they are due to the University by mid-December)
    - **January 13** for new courses/programs to be in the 2023–24 Catalogue (due to the University by mid-February)
    - BUT: early submission is recommended as sometimes additional info is needed
  - Academic Programs Coordinator (TBD) organizes submissions for review by the Engineering Curriculum Committee.
  - Submissions might be returned
    - by the Academic Programs Coordinator for changes after review.
    - by committee for changes or broader circulation to affected units.
  - It is incumbent on VSOE Departments to resolve any final differences at this step. The Dean is reluctant to referee.

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Curriculum Proposals (Cont.): School to School

- Once approved by the Engineering Curriculum Committee, proposals are circulated by the VSOE Academic Programs Coordinator (TBD, a.k.a. the Dean's Designee) via Curriculog to the Schools of any affected units. This step should be pro forma and the outcome pre-negotiated. Curriculog is a poor medium for negotiation.
- Proposals for new programs are circulated via Curriculog to the cognizant Vice Provost prior to submission to the Curriculum Office by the VSOE Academic Programs Coordinator.

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Curriculum Proposals (Cont.): School to University

- The School forwards the proposal via Curriculog to the University Curriculum Coordination Office (CCO) for discussion by the University Committee on Curriculum (UCOC).
  - It might be returned by CCO staff for changes after review.
  - If forwarded to the UCOC, any VSOE proposal is directed to the Science and Engineering Subcommittee (SES) to be
    - reviewed by either the Graduate or Undergraduate Co-chair, who might query the originating department.
    - reviewed by other subcommittee members as needed.

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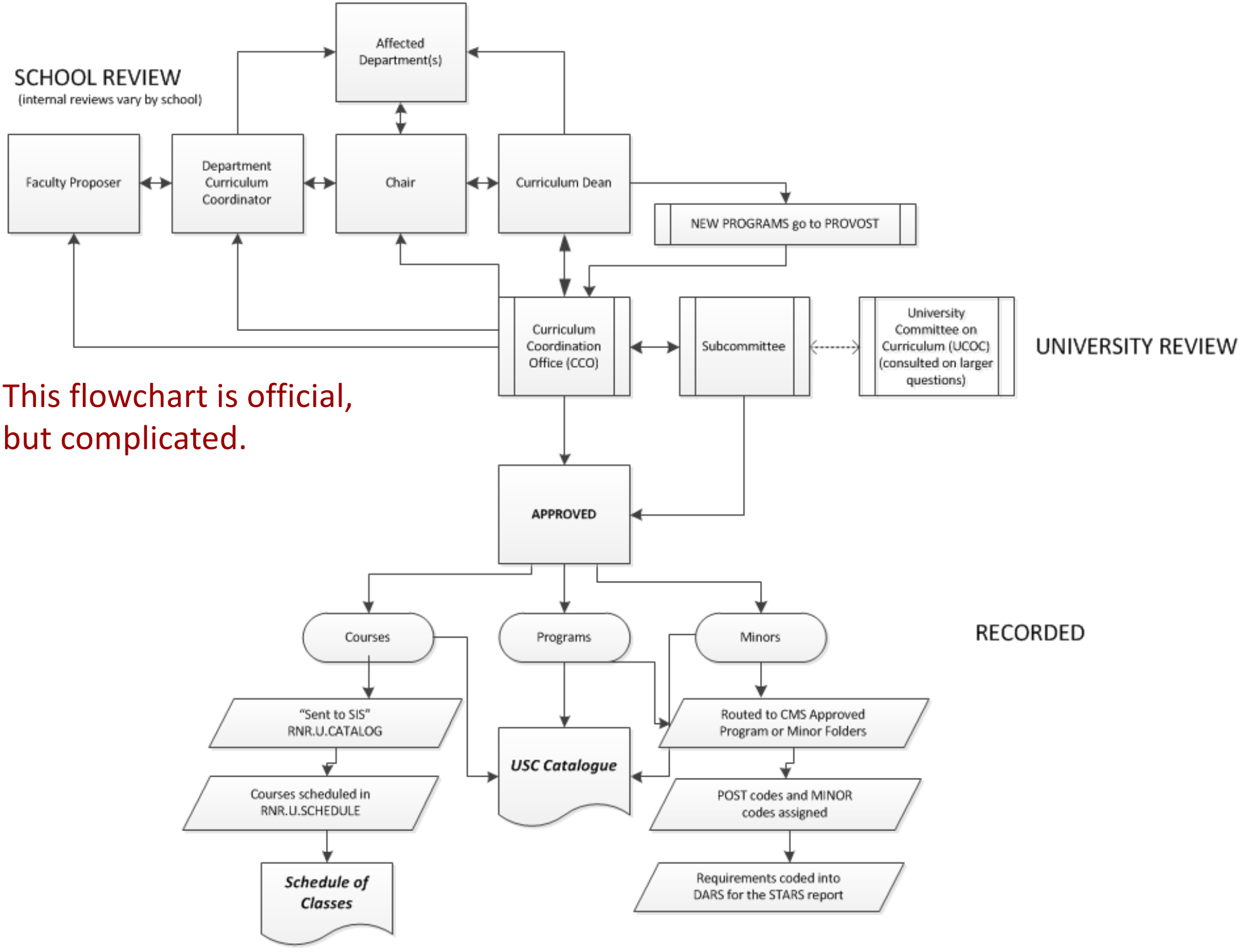
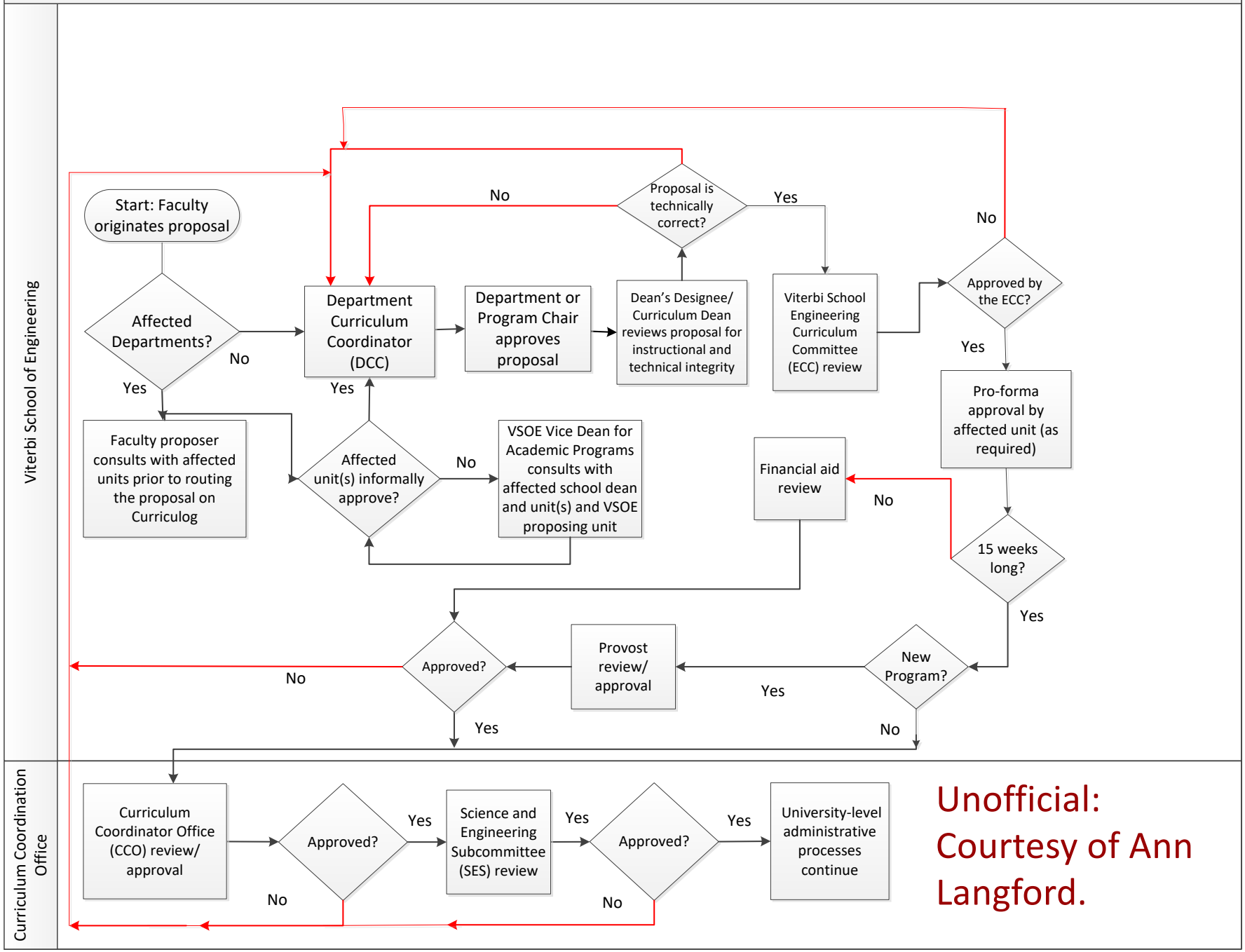
Curriculum Proposals (Cont.): UCOC Meeting Schedule

- If approved by the SES, the proposal is placed on the consent calendar for the UCOC and will likely be approved.
- If discussion is required, it might be returned by the UCOC for changes or broader circulation to affected units.
- UCOC meetings are typically the first Wednesday of the month.
- Rule of thumb: Course proposals take one month for the UCOC to review. New programs and minors take two months to review.


SCHOOL REVIEW
(internal reviews vary by school)
Affected Department(s)
Faculty Proposer
Department Curriculum Coordinator
Chair
Curriculum Dean
NEW PROGRAMS go to PROVOST
Curriculum Coordination Office (CCO)
Subcommittee
University Committee on Curriculum (UCOC) (consulted on larger questions)
UNIVERSITY REVIEW
This flowchart is official, but complicated.
APPROVED
Courses
Programs
Minors
RECORDED
"Sent to SIS" RNR.U.CATALOG
Routed to CMS Approved Program or Minor Folders
USC Catalogue
Courses scheduled in RNR.U.SCHEDULE
POST codes and MINOR codes assigned
Schedule of Classes
Requirements coded into DARS for the STARS report

Viterbi School of Engineering
Curriculum Review/Approval Process



Unofficial: Courtesy of Ann Langford.

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Curriculum Proposals (Cont.): Crossing the Finish Line

- If the UCOC approves the proposal, then
  - This is reflected in the published minutes of the UCOC, which include the SES report, and are posted (eventually) at http://arr.usc.edu/services/curriculum/minutesandreports_current.html
  - The curriculum change is final when the Provost signs the minutes of the UCOC.
  - Catalogue text associated with the proposal is automatically loaded into the working copy of the 2023–24 Catalogue via *Acalog*. The USC Catalogue is solely online, but updates are not continuous: We maintain the concept of a catalogue year with respect to requirements.
  - Done!

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