



ONLINE SOFTWARE ENGINEERING PROGRAM ORIENTATION

PROGRAM DETAILS & REQUIREMENTS

PART 2

WEST VIRGINIA UNIVERSITY ONLINE SOFTWARE ENGINEERING PROGRAM ORIENTATION

PART 2 OF 3 VIDEOS

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Ranked [#10 in US News and World Report](#) for Best Online Graduate
Computer Information Technology Programs.



WEST VIRGINIA UNIVERSITY
LANE DEPARTMENT OF COMPUTER SCIENCE AND
ELECTRICAL ENGINEERING

PART 2 – PROGRAM DETAILS & REQUIREMENTS

AGENDA

- Program Details
 - Graduate Certificate & Master of Science
 - Statler College Graduate Program Policies
 - 3 Program Paths: Course Work only, Problem Report, or Thesis
 - Overview of Courses
 - Plagiarism Tutorial from Library
 - Transferring from Non-Degree Certificate to Regular Graduate Student
 - Transferring from Provisional Graduate Student to Regular Graduate Student



PART 2 – PROGRAM DETAILS & REQUIREMENTS

AGENDA

- Graduation Day
 - Preparing for Graduation
- Question & Answer



PROGRAM DETAILS

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CERTIFICATE PROGRAM

Software Engineering Graduate Certification

- The Certificate in Software Engineering is available to students with all backgrounds that meet the admissions requirements, complete the five core courses of the MSSE program and write a certificate paper.
- Consists of 15 credits, 3 credits for each of the five core courses.
- You may enroll as a Non-Degree or Provisional Graduate student to complete the certificate.
- Students pursuing the MSSE may elect to request a certificate but it must be requested when beginning the program.



CERTIFICATE PROGRAM

- It is important to note that only 9 of the 15 courses can be applied to the MSSE program. Therefore, to earn both you must end up with a total of 39 hours or 2 additional courses.
- The only added requirement is the paper, which is not otherwise required by the MSSE program.



MASTER OF SCIENCE PROGRAM

- Master of Science in Software Engineering Degree
 - Requires completion of a total of 33 graduate credit hours, except for the thesis option which requires 30 hours.
 - Five required core courses include:
 - SENG 510 Software Project Management
 - SENG 520 Software Analysis and Design
 - SENG 530 Validation and Verification
 - SENG 540 Software Evolution
 - SENG 550 Object-Oriented Design



MASTER OF SCIENCE PROGRAM

- The remaining six advanced courses are chosen by the student to meet individual educational objectives.
- Up to 4 courses taken elsewhere can be transferred into the program.
- Up to 3 courses of 400-level (senior undergraduate) courses may be included if they were not counted for another degree.

<http://lcsee.statler.wvu.edu/graduate/msse/program-requirements>



ADMISSION STATUS

- **Regular Graduate Student**

- CS, SE, CpE, or closely related Bachelor's degree with at least a 3.0 GPA in the major
- A satisfactory score in the quantitative component of the GRE

- **Provisional Graduate Student**

- Bachelor's degree in any field with a minimum GPA of 2.75
- At least one year of work experience in the software industry



ADMISSION STATUS

- **Non-Degree Student**
 - Not actually in the program officially
 - Used primarily for completing the Certificate
 - Can qualify later for admission into the program and transfer credits to the MSSE



STATLER COLLEGE GRADUATE PROGRAM POLICIES

- **Transfer Credit**

- Must complete a “Transfer of Graduate Credit” form as soon as possible and submit to Office of Student Services
- Student must request the external institution to send an official transcript to the WVU Office of Admissions
- Maximum of 12 hours may be transferred with grades of “A” or “B”
- The MSSE may choose to accept fewer depending on the courses transferring and other academic situation.



STATLER COLLEGE GRADUATE PROGRAM POLICIES

- **Probation and Suspension**

- Good Standing: maintain at least 3.0/4.0 GPA while enrolled in graduate work
- Minimum of a “C” for any one course is acceptable for the GPA calculation.
- Any Course taken during the degree is included in the GPA calculation.



STATLER COLLEGE GRADUATE PROGRAM POLICIES

- Probation for one (1) semester if you fall below 3.0/4.0 GPA
- Suspension lasts one (1) semester. Can appeal for re-admission.
- Suspension: Can not register for classes.
- Provisional students **MUST** qualify for regular status by the end of the semester in which the 18th course credit hour is completed. Suspension will result.



THREE MSSE PROGRAM PATHS

- **The Course Work Option**
 - Selection of the course work option requires the student to complete eleven 3-hour courses
- **The Problem Report Option**
 - In the problem report option, the student carries out a 3-hour software engineering project related to their work (or an independent effort) in lieu of one formal 3-hour elective course.
- **The Thesis Option**
 - The thesis option requires completion of six (6) hours of research credit culminating in the publication of a thesis under the direction of a research advisor, and 24 hours of formal course work.



THREE MSSE PROGRAM PATHS

- Students electing the problem report and thesis options must begin by forming an individual graduate committee headed by a Lane Department faculty member who will serve as their research adviser.
- For more information see the Research link on the MSSE index page.
 - <http://lcsee.statler.wvu.edu/graduate/msse/research-options>
- The Library EDT Process must be adhered to for the Problem Report or Thesis Options: <https://etd.lib.wvu.edu/>



OVERVIEW OF COURSES

- **SENG 510: Software Project Management**
Topics include: project management process, measures and metrics, project planning and estimation, risk analysis, scheduling, tracking and control.
- **SENG 520: Software Analysis and Design**
Defining the software requirements of a large and complex software product and the principles and concepts of designing the software that will implement the product are discussed.



OVERVIEW OF COURSES

- **SENG 530: Validation and Verification**
Processes and methods for evaluating the correctness and quality of the software product throughout the software life cycle are discussed.
- **SENG 540: Software Evolution**
Topics include: Software process and CMM, software maintenance and evolution, program understanding, reengineering software, configuration management and software tools related to these issues.
- **SENG 550: Object-Oriented Design**
Developing a software system from an object oriented perspective with C++.



PREPARATORY COURSES

- Because this program accepted any undergraduate degree is may be possible to be accepted without any or limited programming knowledge
- The current catalog policy for this program states:
 - “Students who do not hold a baccalaureate degree in software engineering, computer science, or computer engineering may be required to take a set of undergraduate courses above and beyond the minimum coursework requirements.”
- We have developed the following course that will be **required to be taken for no credit when accepted as provisional under the condition specified above.**



PREPARATORY COURSES

- The course will be specified on your acceptance letter as a provisional requirement.
- The **NON-CREDIT PROGRAM COURSE** - 3 hours will not apply to the required 33 hours for the M.S.S.E but can be taken by any one in a WVU graduate program.
- **SENG 591A (SENG 500) Programming Fundamentals with Java**
 - This course serves as an introduction to developing application software. It covers solving problems using the Java programming language. Topics include problem-solving, fundamentals of programming, basic algorithms and data structures, data organization, defensive programming, relational databases and creating database applications.



POST-CERTIFICATE COURSES

- **Technical Focused**

- CS 533 Developing Portable Software
- SENG 560 Software Reuse
- SENG 561 Agile Software Development
- SENG 564 Mobile Software Engineering
- SENG 691A Cloud Computing/Internet of Things
- SENG 670 Data Analytics with Applications to Software Engineering
- SENG 691O Engineering Dependable Software
- SENG 697 Research (Thesis or Problem Report Options)



POST-CERTIFICATE COURSES

- **Management Focused**

- CpE 538 Intro to Computer Security Management
- SENG 581 Quality Software Process Management
- SENG 582 Enterprise Architecture Frameworks
- SENG 630 Requirements Engineering
- SENG 691A Strategies for Managing Software Projects
- SENG 691C Software Engineering Economics
- SENG 695 Independent Study (Experiential Learning)

Note: These are updated frequently to stay current in the Industry.



SENG 695 INDEPENDENT STUDY

Experiential Learning

- Experiential Learning is an independent study (term paper)
- Independent study is designated SENG 695. This is **not** the same as SENG 697 Research.
- Appropriate for students currently working in the software development field.
- Should be taken after most other courses are completed.



PLAGIARISM TUTORIAL

- Required to be completed by your first semester.
- View the tutorial at:: <https://lib.wvu.edu/instruction/plagiarism/>
- Take the Quiz and have the results send to:
Dale.Dzielski@mail.wvu.edu



TRANSFERRING TO REGULAR GRADUATE STUDENT STATUS

- Non-Degree or Provisional Graduate Student's requirements to transfer to Regular Graduate Student Status
 - Earn a least a B in each of the first four approved courses in the Certificate in Software Engineering program.
 - Submit a resume documenting at least three years of software development related experience by the time the four core courses are complete.



TRANSFERRING TO REGULAR GRADUATE STUDENT STATUS

- Provide three letters of reference from persons who are familiar with the applicant's work experience.
- Submit a request via the Program Website:
<http://lcsee.statler.wvu.edu/graduate/msse/certificate-requirements>



GRADUATION PREPARATIONS

1. You **must** submit an Application for graduation to me by the deadline date (to be announced approximately 1 ½ months prior to the end of semester). You can graduate during any semester but only walk during Spring or Fall terms. This can be obtained from Statler-StudentServices@mail.wvu.edu, Statler College Graduate Records. If you miss this, you miss graduating in that semester.
2. You **must** submit **to me** your Final Plan of Study form **as found on the MSSE website**, filled out (typed) **and signed** by you.
 - a. If you are in the coursework option, I will obtain the other signatures and submit this form for you.
 - b. You will need to work with your committee chair if in either the Problem Report or Thesis Options.



GRADUATION PREPARATIONS

3. You must have an A, B, or C in all classes on your Final Plan of Study AND an overall Graduate GPA of 3.0 or better. Even courses taken but not on your plan.
4. Do **NOT** list any courses in the Preparatory section of the Plan of Study unless specifically required to take a course during or before any of the MSSE program courses.
5. After the above steps are completed, you **must** complete and submit **to me** the Alumni Data Form provided by Statler Student Services (or can be downloaded from the College Student Services website).



GRADUATION PREPARATIONS

6. You need to submit the Final Approval Form with the top information completed along with all of the above forms to Dale.Dzielski@mail.wvu.edu.
7. Link: <http://lcsee.statler.wvu.edu/graduate/msse/graduation-procedures>



QUESTIONS?

CONTACT ME, I'M ALWAYS AVAILABLE.

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