



COMMONWEALTH OF  
**VIRGINIA**  
 ENGINEERING (FE / PE) AND SURVEYING (FS / PS / VIRGINIA  
 STATE SPECIFIC / LSB / MAPPING SCIENCES /  
 PHOTOGRAMMETRY) EXAMINATIONS  
 FIRST TIME APPLICANTS AND REPEAT CANDIDATES

C A N D I D A T E I N F O R M A T I O N B U L L E T I N

#### 2011 EXAMINATION DATES

PE/PS/State: October 28  
 16 Hour Vertical (Friday Only): October 28

FE/FS: October 29  
 PE 16 Hour Lateral (Saturday Only): October 29

#### 2012 EXAMINATION DATES

PE/PS/State: April 13 October 26  
 LSA: April 13 October 26  
 Mapping Science: April 13 *Spring Only*  
 Photogrammetry: April 13 *Spring Only*

FE/FS: April 14 October 27  
 LSB: April 14 *Spring Only*

#### SCHEDULING DEADLINES

(Scheduling is NOT available after the deadline. NO EXCEPTIONS.)

#### 2011

October 2011 examination: September 9<sup>th</sup>

#### 2012

April 2012 examination: February 24<sup>th</sup>  
 October 2012 examination: September 7<sup>th</sup>

#### CALCULATORS

Please visit the NCEES web site, [www.ncees.org](http://www.ncees.org), for the most up-to-date information regarding calculators. Only the models on the [NCEES-approved list](#) may be used on the examination. All other models are prohibited in the exam room. The NCEES website also has information regarding examination content.

#### **INTRODUCTION**

The Virginia Department of Professional and Occupational Regulation (DPOR), Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects (APELSCIDLA Board) is responsible for licensing and regulating the engineering and surveying professions. The Board, through DPOR, has contracted with Engineering Examination Services (EES), a division of Professional Credential Services, Inc. (PCS) to provide various testing services. Please read the following information carefully before completing the enclosed scheduling form. All inquiries regarding the examination must be directed to the Virginia Engineering Coordinator at EES.

Beginning with the April 2011 examination cycle, the new **PE STRUCTURAL (16 HOUR EXAMINATION)** will be administered. The PE Structural exam is a breadth and depth exam offered in two components on successive days. The 8-hour Vertical Forces (Gravity/Other) and Incidental Lateral component is offered only on Friday and focuses on gravity loads and lateral earth pressures. The 8-hour Lateral Forces (Wind/Earthquake) component is offered only on Saturday and focuses on wind/earthquake loads. Candidates must receive an acceptable result on

both components within a 5-year period to pass the exam. For more information please visit [www.ncees.org](http://www.ncees.org).

#### First-Time Candidates

You are considered to be a first-time candidate if you are an applicant who has never received approval from the Virginia Board or if you have lost your exam eligibility and must reapply to the Board.

1. All applicants must be approved the Board. First-time applicants must contact the Board for application information. If approved, proceed to step 2.
2. All applicants must create an account online with NCEES. You may create an account 365 days a year at the NCEES' website (CREATING AN ACCOUNT IS NOT THE SAME AS REGISTERING FOR THE EXAMINATION WITH NCEES). Proceed to step 3.
3. Register online with NCEES by the NCEES registration deadline (DEADLINE IS STRICTLY ENFORCED, NO EXCEPTIONS). Select your exam and site information at this time. Only Board-approved applicants proceed to step 4.
4. Board-approved applicants must submit their scheduling form with payment to PCS/EES by the scheduling deadline published in this bulletin.

#### Re-Exam Candidates

You are considered to be a re-exam candidate if you are an applicant who has already received approval from the Virginia Board and your exam eligibility has not expired.

1. All applicants must create an account online with NCEES. You may create an account 365 days a year at the NCEES website. If you have already created an account with NCEES, and your eligibility is still active, proceed to step 2.
2. Register online with NCEES by the registration deadline. EVEN IF YOU HAVE ALREADY CREATED AN ACCOUNT AND REGISTERED DURING ANOTHER EXAMINATION CYCLE, YOU STILL MUST REGISTER WITH NCEES EACH TIME YOU PLAN TO SIT FOR AN EXAM. Select your exam type and site information at this time. Proceed to step 3.
3. Board-approved applicants must schedule and pay the examination fee with PCS by the scheduling deadline (NO LATE REQUESTS OR EXCEPTIONS).

For re-examination candidates to schedule for the examination please visit our web site at [www.pcshq.com](http://www.pcshq.com). Email confirmations are provided 10 to 14 business days after you have successfully completed your online request.

## ENGINEERING AND SURVEYING EXAMINATION FEES

Payment must be by Visa or MasterCard, or by certified check, company check, or U.S. money order (NO personal checks) made payable to Engineering Examination Services. The applicant's name should be posted on the payment document.

### EXAMINATION FEES

|  |       |
|--|-------|
| FE   | \$145 |
| PE   | \$255 |
| PE Structural16-Hour Examination               |       |
| 8 hour Vertical (Friday only)                  | \$500 |
| 8 hour Lateral (Saturday only)                 | \$500 |
| FS   | \$190 |
| PS   | \$255 |
| VA State-Specific Land Surveyor Exam           | \$165 |
| VA State-Specific- <b>LSB</b> (April only)     | \$315 |
| Mapping Sciences (required for Photogrammetry) |       |
| (April Only)                                   | \$55  |
| VA State-Specific (Photogrammetry)             |       |
| (April Only)                                   | \$55  |

## WITHDRAWAL AND POSTPONEMENT POLICY

Candidates may request either a withdrawal or a one-time postponement before the scheduling deadline. The request must be in writing and forwarded to EES via email or fax. Requests after the deadline will only be approved cases involving extenuating circumstances. Proper documentation may be required such as military orders, doctor notes for illness, a death certificate for a death in the family, etc. Extenuating circumstances are NOT job requirements, vacations, lack of study time, weddings, etc.

***Please note: It is when you submit your scheduling form or register via telephone or internet that you are considered scheduled for the examination with EES. ONLY SCHEDULED CANDIDATES CAN REQUEST A POSTPONEMENT OR A WITHDRAWAL.***

Candidates approved for a postponement will be transferred to the next available examination; however, their exam eligibility will not be extended. Candidates will be responsible for paying the difference if fee increases occur.

If a withdrawal is granted, the candidate will be withdrawn from the examination. The candidate will also receive a refund less the \$50 non-refundable processing fee. Refunds are issued 45 days after the examination date.

It is the candidate's responsibility to contact EES prior to the test date if admission materials have not been received. EES has no control over the US Postal Service. If you do not appear for testing, and a withdrawal or postponement has not been granted, you will be considered absent and will forfeit your examination fee. Absentee candidates should visit [www.pcshq.com](http://www.pcshq.com) for rescheduling instructions.

## SPECIAL ACCOMMODATIONS

In accordance with the provisions of the Americans with Disabilities Act (ADA), examination administration modifications are available for candidates who qualify. Also, candidates who are members of religious faiths that cannot take the examination on an assigned date may qualify for special accommodations. Candidate must visit the NCEES website ([www.ncees.org](http://www.ncees.org)) to read complete information as to the application procedures for special accommodations. All requests and supporting documentation must be submitted to NCEES before its deadline.

## NAME OR ADDRESS CHANGES

Name and address changes must be submitted to both the Board office and EES in writing. In order to change your name or address with EES records you must show your old name or address and new name or address. Please include copies of any court documents if applicable (marriage or other legal name changes). Also include the name of the examination taken (profession) and examination date. Name or address changes may be faxed to EES at 615.880.4282 or emailed to [vaeng@pcshq.com](mailto:vaeng@pcshq.com) and to the Board office at 804.527.4294 or emailed to [apelscidla@dpor.virginia.gov](mailto:apelscidla@dpor.virginia.gov). Candidates with name or address changes should report the change no later than three weeks prior to the examination. This will ensure that candidates receive their admission materials at their new address and that the materials contain the candidate's new name to match their ID which is required for exam entry.

## NOTIFICATION OF EXAMINATION ADMISSION

Approximately two weeks prior to the examination, an examination authorization will be mailed to eligible candidates and will include the date, time, and location of the exam. Candidates determined to be ineligible for the examination will receive a partial refund of their scheduling fees approximately 45 days after the examination.

## MECHANICAL PENCILS

Candidates must use the mechanical pencils provided by NCEES at the examination site (no other options).

## TEST SITE AND REPORTING TIME

The exact test site location, map to the site, and reporting time will be provided in your admission materials. It is also suggested that you visit a web site for driving directions from your departure location to the test site.

## NCEES

Candidates are encouraged to visit the National Council of Examiners for Engineering and Surveying web site ([www.ncees.org](http://www.ncees.org)) for information regarding the examination content, scoring system, and the latest information regarding the calculator policy.

## ENVIRONMENTAL DISTRACTERS

Although every attempt is made to provide a quiet and comfortable testing environment, noise and room temperatures may be an unforeseen distracter. It is suggested that if you are sensitive to noise or temperature variations, you may want to bring earplugs and types of dress that can help you to adapt to a cooler or warmer climate in the examination room. EES will work with the testing site staff to anticipate potential problems.

## ADMISSION REQUIREMENTS

1. You must present your examination authorization and one form of government issued identification with a photograph and your signature (i.e. drivers license or passport) in order to be admitted to the examination room.
2. The identification must be current and clearly recognizable or you will not be admitted to the examination. If your photo does not have a signature, you must bring a second form of signature identification.
3. It is the responsibility of the candidate to be at the examination on time. Candidates will not be permitted into the examination room after the announcements have begun (NO EXCEPTIONS). It is strongly suggested that you visit the site before the day of the examination so you are familiar with the route and the needed travel time.

4. In the event of inclement weather or a national disaster, please call PCS for updates at (877) 364-3926.

#### **FE/FS CANDIDATES ONLY**

The FE is a closed-book exam. You will be provided with a FE supplied reference handbook at your seat on exam day.

The FS is a closed-book exam. You will be provided with surveying reference formulas on exam day.

#### **PE / PS / MAPPING SCIENCES CANDIDATES ONLY**

You may use published books, codes, tables, standards and ordinances, and bound reference materials. Bound reference materials are defined as stitched, glued or fastened by spiral binders, plastic snap binders, brads or screws. Current regulations, available on the [Board's](#) web site, will print as a single sheet format and immediately become an "unbound document". Please bind all reference materials as noted above.

Candidates may tab reference books before the examination with Post-it™ type notes and flags, but pads of Post-it™ notes and flags are not permitted in the examination room. Candidates are not permitted to exchange reference materials or aids during the examination. Candidates are not permitted to write and make notes in any of the reference materials.

All items brought to the test site will be the candidate's sole responsibility. EES, the Board or the facility are not responsible for any lost, misplaced, and/or stolen items.

#### **ITEMS PROHIBITED IN EXAMINATION ROOM**

Unapproved calculators are not permitted. Only the calculators listed on the NCEES web site are permitted.

Devices or materials that might compromise the security of the exam or disrupt the examination process are not permitted.

Devices with copying, recording, or communication capabilities are not permitted. These include, but are not limited to, cameras, cell phones, desktop/handheld laptop, and palmtop computers, databanks, data collectors, organizers, pagers or beepers, PDA's, radios, headsets, tape players, MP3 players, portable fax machines, calculator watches, reproduction equipment, electronic dictionaries, electronic translators, transmitting devices and recorders.

Personal writing and erasing instruments may not be used to complete any portion of the examination. Only NCEES-supplied pencils and erasers are permitted.

Loose paper, legal pads, writing tablets, and unbound notes are prohibited. All scratch work must be written in the exam book. Writing on any other paper including the supplied FE Reference Handbook, or removing pages from the examination book or Handbook, is strictly prohibited.

Weapons of any kind, tobacco products, alcoholic beverages, and personal chairs are not permitted.

If any prohibited item is found in a candidate's possession after the examination begins, or if a candidate is found to be using a writing instrument other than the NCEES-supplied pencil, the item will be confiscated, the candidate will be dismissed from the examination, and his/her examination will not be scored or refunded. All confiscated items will be forwarded to NCEES.

#### **SCORE NOTICES**

Candidates may log in to their NCEES account to view their results. Please allow 8 to 10 weeks for NCEES to update individual accounts with exam results.

#### **SECURITY GUIDELINES**

The Commonwealth of Virginia copyrights all test state-specific questions. Copying, reproducing or taking any action to reveal the contents of an examination in whole or in part is unlawful. Removal of an examination booklet, answer sheet or other confidential material supplied to you at the examination is prohibited.

Any irregularity such as an act of impersonation, creating a disturbance, giving or receiving unauthorized information or aid to other candidates, attempting to remove examination information by any means, or possession of unauthorized notes or equipment may be sufficient cause for you to leave the examination room. All such irregularities will generate a report to the Board.

The *Examination Site Conduct Agreement Form* will be supplied to you at the examination. The form provides for your agreement to the security guidelines discussed above and must be completed prior to taking the exam.

No visitors, guests or children are permitted in the examination room.

#### **VA STATE-SPECIFIC LAND SURVEYOR EXAM**

Beginning with the October 2002 examination, the Virginia Surveyor license examination will be a one-part, multiple-choice examination.

The content outline is as follows:

1. Regulations
2. Virginia Statutes
3. Geomatics
4. Land Planning, Design and Drainage
5. Construction/Route Location Survey
6. Erosion and Sediment Control
7. Boundary Survey Law
8. Wetlands/Chesapeake Bay/Water Quality
9. Hydrographics

The examination will contain at least 50 questions. The number of questions will vary depending on the allocated difficulty and time per question. The examination questions cover Board regulations and statutes (approximately 50%) and technical knowledge (approximately 50%). Please be aware that regulation and statute questions are contained in each of the content areas noted above. There will be a two-hour time limit.

Candidate comment forms will be available in the event you wish to comment on a particular exam question. Please request a form from the proctor at the completion of your testing session.

#### **SCORING AND REPORTING**

There is no penalty for guessing so it is to your advantage to guess if you are unsure of the correct response. A minimum scaled score of 70 must be obtained in order to achieve a passing score. Results are confidential and will be reported to the Board office. The Board office will notify you of your results.

## **SUGGESTED REFERENCES FOR VA STATE-SPECIFIC LAND SURVEYOR EXAM**

It is strongly recommended that all candidates download the current *Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects Regulations*. This reference is available at the [Board's website](#). However, please be aware that these will be unbound single sheets. All documents must be bound as previously discussed in this bulletin.

[Library of Virginia, Standards for Plats.](#)

*Code of Virginia* as it pertains to the practice of surveying including but not limited to:

[Title 28.2, Chapter 13 \(et seq.\) "Wetlands".](#)

[Title 54.1, Chapter 4 \(et seq.\) "Architects, Engineers, Surveyors, Certified Interior Designers and Landscape Architects".](#)

[Title 55, Chapter 17 \(et seq.\) "Virginia Coordinate System".](#)

Virginia Department of Transportation [www.virginiadot.org](http://www.virginiadot.org)  
Drainage Manual, Current Edition  
Road and Bridge Standards, Current Edition  
Survey Manual, Current Edition  
Subdivision Street Requirements, Current Edition  
Work Area Protection Manual, Current Edition  
Road Design Manual, Current Edition  
Erosion and Sediment Control & Stormwater Management Program Manual, Current Edition

[Virginia Erosion & Sediment Handbook.](#)

*Chesapeake Bay Preservation Act*, Chesapeake Bay Local Assistance Manual, November 1992, [www.dcr.virginia.gov](http://www.dcr.virginia.gov)

[Chesapeake Bay Preservation Area Designation and Management Regulations 9 VAC10-20-10 et seq.](#)

*Virginia Council on the Environment: A General Guide to Environmental Regulations in Virginia*

[U.S. Clean Water Act, Section 404.](#)

[US Army Corps of Engineers Hydrographic Survey Manual, EM 1110-2-1003](#), January 2002.

[U. S. Army Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1.](#)

[Virginia Wetlands Management Handbook, "Wetlands Guidelines".](#)

*Clark on Surveying and Boundaries*, June 1998, Robillard and Bouman  
*Route Surveying*, Hickerson

*Surveying*, current edition, Francis H. Moffit/Harry Bouchard Bouchard

NOAA Tide Tables  
Boundary Control and Legal Principles, Current Edition  
Robillard and Wilson

*National Geodetic Survey – Geodetic Mark Preservation*

## **LAND SURVEYOR B (LSB) EXAM**

The Land Surveyor B examination is an 8-hour multiple-choice examination with a morning and an afternoon session. The exam consists of approximately 50 questions which comprise both sessions. However, the number of actual test questions will vary.

An individual must be licensed as a Virginia surveyor in order to take this examination.

An overall scaled score of 70 must be achieved in order to pass the examination for licensure.

As noted above, the same policies and procedures pertain to this examination. This examination is only offered in April of each year. The content outline is as follows:

1. *Erosion Control*
2. *Drainage and Storm Water Management*
3. *Incidental Plans/Profile*
4. *Land Planning and Design*
5. *Sanitary Sewer*
6. *Water Line Extensions*
7. *Federal/State/Local Standards*

## **SUGGESTED REFERENCES FOR LAND SURVEYOR B EXAM**

It is strongly recommended that all candidates download the current *Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects Regulations*. This reference is available at the [Board's website](#). However, please be aware that these will be unbound single sheets. All documents must be bound as previously discussed in this bulletin.

Virginia Department of Transportation, [www.virginiadot.org](http://www.virginiadot.org)  
Drainage Manual, Current Edition  
Road and Bridge Standards, Current Edition  
Survey Manual, Current Edition  
Minimum Standards of Entrances, Current Edition  
Subdivision Street Requirements, Current Edition

[Virginia Erosion & Sediment Handbook.](#)

*Code of Virginia* as it pertains to the Practice of Surveying:

[Title 54.1, Chapter 4 \(et seq.\) "Architects, Engineers, Surveyors, Landscape Architects, and Interior Designers".](#)

Virginia Department of Health [www.vdh.virginia.gov](http://www.vdh.virginia.gov)  
*Manual for Waterworks Regulations and the Practice for Waterworks Design*  
[Sewage Collection and Treatment Regulations](#)

*Virginia Sewerage Regulations*

References of your choice on Sanitary Sewer Design and the Practice of Surveying

## **MAPPING SCIENCES EXAM (REQUIRED FOR PHOTOGRAMMETRISTS)**

The Mapping Sciences examination is a 6-hour examination containing 100 questions.

Candidates must pass the Fundamentals of Surveying Examination prior to attempting this examination.

An overall scaled score of 70 must be achieved in order to pass the examination for licensure.

As noted above, the same policies and procedures pertain to this examination. The examination is only offered in April of each year.



The content outline is as follows:

1. Statutes and Rules
2. Standards
3. Project Planning
4. Geodesy and Map Projections
5. Data Acquisition
6. Data Reduction and Analysis
7. Documentation and Map Presentation
8. Business Principles and Communication
9. Quality Assurance.

#### **SUGGESTED REFERENCES FOR THE MAPPING SCIENCES**

*Elements of Photogrammetry with Applications in GIS*, Wolf & Dewitt, 3<sup>rd</sup> Edition

*Remote Sensing and Image Interpretation*, Lillesand & Kiefer 5<sup>th</sup> or 6<sup>th</sup> Edition

*Digital Elevation Model Technologies and Applications: The DEM Users Manual 2<sup>nd</sup> Edition*, Edited by David F. Maune, PhD, CP

*Glossary of the Mapping Sciences*

*ASPRS Manual of Photogrammetry*

*Introduction to Modern Photogrammetry*, Mikhail, Bethel, McGlone

#### **VIRGINIA STATE-SPECIFIC PHOTOGRAMMETRY EXAM**

The Virginia State-Specific Photogrammetry examination is a 2-hour examination containing 50 multiple-choice questions.

The content outline is as follows:

1. Regulations
2. Statutes
3. Control Field Practices
4. Photogrammetric Mapping
5. Virginia Mapping Standards
6. Flood Plain Mapping
7. Geometrics

#### **SUGGESTED REFERENCES FOR THE VIRGINIA STATE-SPECIFIC PHOTOGRAMMETRY EXAMINATION**

*Code of Virginia as it pertains to the practice of surveying:*

[Title 33.1, Chapter 1, Section 184 "Evidence as to existence of public road"](#)

[Title 42.1, Chapter 8 \(et seq.\) "State Publications Depository Program"](#)

[Title 54.1, Chapter 3 \(et seq.\) "Department of Professional and Occupational Regulation"](#)

[Title 54.1 Chapter 4 \(et seq.\) "Architects, Engineers, Surveyors, Certified Interior Designers and Landscape Architects"](#)

[Title 55, Chapter 17 \(et seq.\) "Virginia Coordinate System"](#)

*Virginia Administrative Code*

[9VAC10-20 "Chesapeake Bay Preservation Area Designation and Management Regulations"](#)

[17VAC15-60 "Library of Virginia Standards for Plats"](#)

[18VAC10-20 "Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects Regulations"](#)

Virginia Dept. Of Transportation (VDOT) [www.virginiadot.org](http://www.virginiadot.org)  
*VDOT 2002 VA Work Area Protection Manual*  
*VDOT Location and Design Division Survey Manual, 2002 Edition* (this edition may change in the coming months)

*Elements of Photogrammetry* by Paul R. Wolf and Bon A. Dewitt. McGraw Hill 2002. ISBN: 0-07-292454-3.

*Manual of Photogrammetry*, 5<sup>th</sup> edition, ASPRS (American Society for Photogrammetry and Remote Sensing). Editor: J Chris McGlone, 2004. ISBN: 1-57083-071-1

*Introduction to Modern Photogrammetry* by Edward M. Mikhail, James. S. Bethel, J. Chris McGlone. John Wiley & Sons, Inc.

*Digital Elevation Model Technologies and Applications: The DEM Users Manual. 2<sup>nd</sup> edition*. Edited by David F. Maune, A Maune, ASPERS, 5410 Grosvenor Lane, Suite 201, Bethesda, MD 20814. ISBN: 1-57083-082-7. ISBN: 04-471-30924-9

*Digital Elevation Model Technologies and Applications*. David Maune.:Code of VA 28.2  
*Geo World*, January 2003, page 28.

*A First Text on Geographic Information Systems*. Bolstad, P., 2002.

Model Virginia Map Accuracy Standards Section  
[www.ngs.noaa.gov](http://www.ngs.noaa.gov) NAD83 Readjustment, National Geodetic Survey or Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques by the FGCC, 5/11/88, revised 8/1/89.